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STREET-RAILWAY RATES, WITH ESPECIAL REFERENCE TO DIFFERENTIATION

SUMMARY

I. *The principle of differentiation:* Apparently opposite characteristics of steam-railroad and street-railway rates, 624. — Summary of principles at the foundation of the differential rates of steam railroads, 625. — Their relation to branch-line deficits, 626. — II. *Character of the street-railway flat rate:* The street-railway flat rate, equally with the differential rates of steam roads, is not adjusted to cost, 628. — The nickel is the convenient price for a service that will be generally demanded only if the price be small, 629. — This price once adopted, concessions and adjustments to new developments have more easily been made elsewhere than in the rate, 630. — Costs of street-railway carriage vary greatly, 634. — Even the zone system does not adjust rates to costs, 635. — Passenger business in general is less susceptible to external differentiation, 636. — The responsiveness to lowered rates of the demand for street-railway service is about maximal for all classes at the nickel, 637. — Importance of combining "lean" with "fat," 639. — III. *Certain applications of differentiation in street-railway practice:* The distance limit of the ride from the center of the city to be had for 5 cents is not fixed by the prime cost of the particular service, 640. — The growth of a comprehensive system does not necessarily mean an increase in the average length of ride, 642. — Rapid transit lines may be expected to preserve the 5-cent rate to distant residence districts, 643. — Transfers are an accident of the passenger trip which should not ordinarily affect the rate, tho joint-rates may well be higher, 645. — Differentiation in the quality of service may be economically justifiable, 647. — Overcrowding at rush periods is not to be determined by merely physical standards, 648.

THE purpose of this article is to develop the economic principle at the foundation of reasonable street-rail-

way rates, and also to indicate certain of its applications. It is the writer's opinion that the rate-making problem is fundamentally the same for street railways and for steam roads. In each case we must recognize the presence of differential charges and provide for their equitable distribution. That the principle of differentiation is modified, and superficially quite changed, in its application by street railways, is true. But this may be due chiefly to the decidedly retail and therefore customary character of street-railway fares.

To speak of differentiation in street-railway rates in the United States, bringing over the idea from steam roads, appears to be like passing from the subject of mosquitoes in New Jersey to that of snakes in Ireland. Hence the need of considering what is meant by differentiation in current railroad practice.

I. The Principle of Differentiation

The readers of this journal may be assumed to be acquainted with the theory of railroad rates. Hence we shall merely review, without explanation, the points that are of general, but not of peculiar, significance for street-railway practice. These general propositions are, of course, stated in a way to lead up to the more specific matter to follow.

The growth of fixed capital and its specialization brings into existence heavy "fixed charges" which cannot be definitely apportioned as costs to the particular goods to whose production the capital has contributed. Railroads, both steam and street, show a greater ratio of capital to labor employed than any other considerable branch of industrial enterprise; hence it is here that the unapportioned part of cost

is greatest. Continuous utilization of full productive capacity is the way to reduce fixed charges per unit of product, and thus to reduce this portion of the cost of goods. For this reason it is expedient to make a special concession in price wherever considerable new and additional business (other than peak-load business) can be obtained by a railroad.

The expediency of lowering rates does not apply to all classes of goods or services, nor is it conditioned by resemblances or differences among the goods dealt with; only those that respond to a concession with a much increased demand can economically be favored. Articles that are relatively cheap in proportion to bulk or weight will be scarcely carried at all unless favored as regards fixed charges. Articles capable of bearing a higher rate (not sensitive to reductions or advances) do not lose, but gain, if the favored articles that would not otherwise be carried make any contribution at all towards meeting fixed charges. The classification of freight in accordance with the differential principle is the great example of the variation of rates with little regard to total unit cost.

A differential is one of a system or schedule of quantitative differences graded according to some principle not determined by the intrinsic qualities of the things differentially treated. But varying differentials that are adjusted in detail but roughly and according to convenience may produce external uniformity of price, *i. e.* a differential distribution of fixed charges may complement and equalize variations in prime cost. The lower limit beyond which the reduction of a rate by differentiation cannot economically go is the separable cost, or prime cost, of the particular good or service. For steam roads this as a rule is considerably less than a propor-

tionate share of operating expenses; *i e.* some of these, as well as most capital charges, do not vary with the volume of business. Prime cost varies with conditions and circumstances, while reliability and stability in rates are necessary in order that business may adapt itself to them, hence only average adjustments of rates to prime cost are practicable.

A lateral limitation upon differentiation is constituted by the moral feelings of the public, which insists that the same price be charged for the same commodity under the same conditions, *i. e.* without distinction of persons. This is another reason for simplicity and stability of rates.

There is less differentiation in rates for passenger service than for freight, largely for the reason just given.

Total cost per unit of business cannot be the rule for price or rate-making. Total unit cost is itself reduced by additional business, hence the rate should be determined with reference to this possible variation.

Economy — the performance of the greatest service at least cost — is at the foundation of the differential system, tho monopoly has facilitated its development and application.

So much for the principles determining railway rates in general. A corollary relating to certain peculiarities of the economic situation of branch steam railroads or extensions requires somewhat fuller statement because of its direct application to a fundamental point of street-railway rate policy.

Branch lines are often acquired and carried year after year by important railroad systems without regard to the fact that the books of the former show a continual deficit. Traffic is likely to be sparse on

such an out-of-the-way line. Even with rather high rates, it is often unable to pay fixed charges. None the less it is probable that the main line can well afford to continue to pay the deficit.

It may be assumed that the branch line discharges and receives its freight from the controlling road. That is likely to be what it is controlled for. If the main line is 1000 miles long, and the branch line 50, then we may assume that the net receipts above movement cost for the branch line are not much more than one-twentieth the net receipts above movement cost for the main line from the same freight. But the main line will have a much greater density of traffic, hence the freight from the branch need be required to pay, when it gets on the main line, perhaps only one-tenth of the fixed charges per ton-mile which it must pay on the branch line in order to meet "total" cost. The main line will also obtain a much longer haul. It may, therefore, gain enough to be able to pay the deficit of the branch line and still have a large profit from the business contributed by the latter. The main line receives a sufficient consideration in the opportunity to make profits from the business after it gets to that portion of the system. If necessary, the long-haul traffic that would not be otherwise obtained may reasonably be required to pay less than its pro-rated share of fixed charges. This method of dealing with branch business amounts merely to carrying it part of the way for less than an *average* unit-cost, the basis of the average being rather arbitrarily determined. But deviation from type is the essence of differentiation. The financial carrying of an apparently unprofitable branch may thus be quite economical, if due attention is paid to the differential nature of charges and profits.

The practice and precedent of steam railroads are altogether in favor of differential rates, the differentiation having no direct relation to "total" cost, and depending on a difference in the kind of traffic only so far as that difference may be connected with difference in ability to pay and also because external differences in traffic are naturally a great facility in classification. This differentiation of rates has been a development due entirely to the initiative of the railroads themselves. And the extent to which the development has been carried in the United States, tho not without its inconvenience and embarrassments to the public, is one of the most important respects in which American railroads show their greater progressiveness over those of other countries where the development of commerce has been hampered by a failure to carry the application of the principle so far.

II. Character of the Street-railway Flat Rate

In passing from steam-railroad to street-railway enterprises, the principle of the differential rate certainly is modified. The conditions here, as regards great importance of fixed charges and of expenses that do not vary with the business done, are altogether favorable to some manifestation of the differential principle. But most would say that the prevailing flat-rate "principle" is quite in contrast with the differential practice of "charging what the traffic will bear," and that therefore the basis of street-railway rate making must be quite different from that of steam-railroad rate making.

In one respect it is obvious that the flat rate is quite on all fours with the principle of charging what

the traffic will bear. There is absolutely no attempt to make the charge conform in detail to the character of each particular service or class of service. The charge for an individual service is not based upon a calculation of its individual cost, and there is no direct relation between the two. If there were no other resemblance between the developments in the two situations, this fact of itself would indicate that their economic foundations are the same. But let us see why it is that in this country the nickel street-railway fare is seldom substantially departed from, regardless of the character of the service rendered.

In the United States the nickel is pretty nearly the bottom price for any service for which it is worth taking the trouble to collect for, unit by unit, in cash. It is true that newspapers sell for less, but the customary price has probably become established largely with reference to payment by the week or month, *i. e.* for combined sales. It is significant that the demand for a reduction of fares on street railways takes the form of trying to obtain more than five tickets for a quarter. Most people would not appreciate a reduction that called for a frequent making out of four cents change in cash. The passenger would rightly consider the trouble of making change a part of the cost of his trip. Copper currency is also considered by many disagreeable to handle, perhaps because of its formation of verdigris and its apparent affinity for dirt. Hence the nickel is for many purposes the natural stopping point in the downward movement of the price of a small service. The odd cents of the bargain counter are a phase of something of the nature of an advertising device or of an expense devoted to attractive packings rather than a result of true price determination. It is only

for children and for the very poor that the cent is a real and important price unit. The nickel being thus a bottom price, and the bottom of a thing being naturally flat, the flat-rate principle is to a large extent an accidental result of our system of coinage. In Germany the 10-pfennig piece, worth 2.4 cents, takes a similar position as the unit of street-railway charges.

It is by no means claimed that this nickel bottom is impenetrable. The price for street-railway service may, and frequently does, drop below that, but always with a tendency to make the nickel after all the fundamental point, from which a slight departure is made almost by way of exception, as, *e. g.*, by selling more than five tickets for twenty-five cents. If the fundamental rate had not received a good deal of support from the conditions and tendencies of street-railway service it would not have held. But it has never been conclusively proved that the street railways could get along with much less. Coincident with the cheapening of operating costs resulting from the introduction of electric traction, there came combinations of previously independent roads, and transfers. Thus the passengers obtained a concession to their convenience and a presumably somewhat longer average ride in lieu of a possibly lower fare, and they were doubtless well satisfied with their bargain. The public has also been well pleased to have the street railways build extensions farther and farther into the suburbs. It may be laid down as a general proposition that the people prefer to obtain more for the nickel rather than to pay less and on the average get less.

The managers of the street railways, on the other hand, have found the nickel profitable in most cases,

and they, as well as the public, have at least secretly recognized the convenience and business advantages of having the rate of fare fixed by custom at the nickel. This has given them a fixed point on which to base their calculations and has promised them great gain in the future as business increased in density, and thus in profitableness. For the margin between operating expenses per passenger and the nickel collected is, for every increase in the total number of passengers, more and more a contribution to profits as distinguished from interest. The fixed charges naturally do not keep pace with growing business. Extensions of road and the lengthening of the ride have doubtless cut into these increasing returns of street railways, and operating expenses also have increased in a way to encroach sometimes on the margin of net earnings in each nickel. But even tho the nickel has not yielded all the profits that street-railway interests have looked forward to, the public is nevertheless entitled to claim the benefits of the flat-rate principle, just as street-railway capitalists would have claimed, and doubtless obtained, what the nickel would have given them, had operating expenses gone down instead of tended upward.

A street railway is an extreme example of a kind of enterprise where a large business obtained by the concession of a low rate is essential to success. The enlightened policy is to make the greatest possible use of the great amount of fixed capital sunk in the plant, which means putting the price very little above prime cost. A management that intends to stay with a street railway is not seriously thinking of any other policy. It happens that in the United States five cents has been the most convenient *low* rate at a comfortable distance above prime cost. Hence in-

fluences tending to determine rates, operating from the side of both corporations and the travelling public, have come to an equilibrium at that price.

The maintenance of the five-cent flat rate ought so long as possible to be a fixed principle of street-railway policy. If it is to be departed from, that should be accomplished gradually and as a last resort. Every possible device should be adopted to save this rate in its fundamental application, that is, as regards the *traffic between residence and business sections*. The public has a vested right — morally, if not legally, — to the nickel fare for this service. Suburbs have been developed and homes have been built by workingmen and others on the assumption that the nickel fare from home to the business center was something which they could reckon with. If street-railway stocks will depreciate unless earnings are increased, real estate values in the suburbs, on the other hand, will go down, if the rate of fare is increased. The owners of stocks should not be protected from the effects of their miscalculations at the expense of others whose calculations were more reasonable, and whose interests are rather more bound up with the good of the community. For it is a fundamental public interest that there be cheap and rapid means of transportation to the suburbs, in order that some of the evils of congestion of population, with its attendant injury to the public health, may be avoided or cured.

External uniformity and constancy of price conform to the requirements of the situation. Street-railway service being rendered for a small price per unit, custom is a factor in determining what shall be charged. The customary price hit upon has been the nickel, because that is the coin most convenient for small retail transactions, upon which all the interests at

stake have been most nearly able to agree. Retail prices in general tend to become customary. Furthermore, any service which is to be popular, in the sense of being rendered to practically all the people of a city, must not only be provided at as low a price as possible, but the rate must be well understood and well established.

The flatness and the stability of the nickel rate being thus disposed of, let us consider next the question as to how far the flat rate actually is in practice and in detail the opposite of a differential rate.

The economic essence of the differential principle is, not that prices are different for similar services, but that, for two services substantially similar and therefore "costing" about the same amount, one is made to contribute to fixed charges and profits only (say) 10% above prime cost, while the other contributes 50%. The result is that the price in the two cases is as 11 to 15, that is, there is a difference in price. But this difference is merely an incidental result of the principle involved, and by no means essential. If the one service costs 5 and the other $7\frac{1}{2}$, but both are performed for a price of 10, the differential charge is there; since the net return is 100% in addition to prime cost in the one case and but 33% in the other. Here the result of the differential charge is uniformity of price. In this illustrative case the uniformity is merely an accidental result; it is not in general wrong to think of the differential principle as causing differences in prices.

In the case of street railways the uniformity of the charge is no accident. True, the scope of the operations of the differential principle is restricted. It is not free to produce the remarkable effects that it sometimes does in steam-railroad charges. But pas-

sengers are, nevertheless, in a sense, differentially treated, by very reason of the fact that the rate for all is a nickel.

Business on a given line during certain hours of the day may not be sufficient to justify the running of more than a minimum schedule of cars. There is a certain minimum frequency of street-car service — doubtless varying from city to city — which the public will require. The necessity of giving employees something like a full day's work also causes unfilled cars to be kept running at slack hours. Under such circumstances, new passengers riding on one of the cars gathering few passengers cost the company practically nothing. Here a nickel may be considered to be entirely net return. On some other line of the company the traffic is probably dense enough all day long to warrant the operation of more than a minimum schedule. Here added passengers will cause the addition of cars, and a car load of passengers must be taxed with the operating expenses of the car before we get a net portion of each nickel. In the rush-hour period the same principle applies, with a modification. Since the rush hour is the period of maximum loading, if cars are supplied in proportion to passengers at that time, the supply of equipment must increase to a point where some of it is used for rush-hour passengers only. In this case some of the interest and depreciation on equipment is prime cost. In other words, the rush-hour variable cost, or prime cost, per car load of business (assuming the car load to be a constant quantity) is greater than at any other time. If the car load remains the same, the margin above prime cost from each nickel will be much reduced. In practice the situation is met by increasing the load, so that the number of nickels per car trip is great

enough to more than overbalance the increased prime cost per car load. In this way the rush-hour business is possibly the most profitable business of street-railway companies. As regards the passenger riding against the current in the rush hour, however, the prime cost of carriage is again practically nil. There is plenty of differentiation in the system of street-railway charges, tho the expression of the principle is not the same as with steam roads.

So far as practice knows an opposite, the nearest to the true opposite of the differential system of rates is the zone system, according to which the charge made is modified according to distance traversed. But even in this case, so antithetical are railroad rates to adjustment on the basis of cost, the approximation to a total-cost system is very remote.

Regard for total cost per unit should take account of the density of traffic on different lines, as well as distance travelled. But this, so far as the writer knows, has not been attempted. The flat-rate system, by being *more flat* than the zone system, only comes much nearer to being an adequate expression of the economic factors which produce the manifestly differential system of steam roads. The practice of charging the same or approximately the same rate for the long haul and for the short haul included within it is a phase of the differential system of the steam roads. There is an evident and essential similarity between this and the flat-rate system of the street railways.

Whether the term differential should be applied to the relation of the flat nickel rate to the contributions to profits made by different classes of passengers, may perhaps be questioned. That is a matter of terminology. The conception of a differential return

to land as the foundation of the theory of economic rent is older than are the railroads. The differential return here is a result of uniformity of price for products of varying cost; thus the situation is entirely analogous to the differential contributions of street-railway passengers to profits. It would appear, therefore, that differentials are a part of the street-railway flat-rate system as much as of the steam-railroad system of classification of freight and passengers.

Passenger business, which is practically the whole business of street railways, does not lend itself to differentiation as readily as freight business. Even the railroads differentiate less in their passenger traffic. The well-to-do citizen will not submit to being charged a double price where the workman is charged half as much for the same service; at least he does not want it done openly and without the semblance of a difference in the quality of service. Hence this kind of differentiation will not work well. The street railways, especially, could not well separate the different classes of passengers without great cost to themselves and intolerable inconvenience to the travelling public.

Most of the business of a street railway, moreover, will respond to the nickel rate in a way to yield the maximum profits at about that point. The business that would readily pay more even for somewhat better accommodation is relatively small. The additional business that could be obtained by a slight reduction in price is also not important. These are further phases of the fact that the nickel is a low-level price for such a service, at which the various factors tend to be at equilibrium.

Where quantity of business is a considerable factor in its total unit cost, and where an enterprise ministers

to several lines of production or service which are different from each other in respect of their responsiveness to a lowering of charges, there is room for the application of the differential principle. The street-railway business conforms to the requirements of this proposition, yet the flat rate, instead of external differentiation, is the rule. This no longer appears paradoxical when we see that the *nickel calls forth the greatest volume of traffic* for practically all the classes the street railways serve. The single rate for diverse services and the varying rate for substantially the same service have an identical economic foundation. There is evidently every reason why departure from the flat rate should be permitted for sufficient reasons, but we must not forget that there must also be good grounds for the fact that there is actually so little departure from it. Those grounds make it entirely consonant with the principle of differentiation.

The absence of causal relation between the total cost of the particular item of street-railway service and the price paid for it is still the essence of the situation, but the differential element in the price charged results from it, instead of in detail determining it. The flat rate can therefore be maintained only by the inclusion of business on which the margin of net return in the nickel is large along with that in which it is small, — the fat with the lean. This situation is of the essence of the flat-rate principle, that it cover both the relatively profitable and the relatively or absolutely unprofitable business, and that the one shall make up for the other and the other be balanced by the one. The Post-Office sustains itself on a flat-rate system of charges maintained in just this way.

The "fat" is composed of the short rides taken within the business center; the home-to-work traffic

is the complementary "lean." Both because of the time of day when it occurs and because of its balanced character, the inner-city traffic is highly advantageous to the railway that serves it. But its amount depends upon the volume of daily traffic to and from the business center. There is a natural connection between these two. They should therefore go to the same company in order that the high differential return from the one may compensate for the high prime cost of the other. Consolidation of street railways thus not only facilitates the rational development of a transfer system but it also appropriately unites fat and lean.

We have mentioned some of the peculiarities of the economic status of branch railroads. When there is no pretense of paying according to distance travelled, as is the case with American street railways, it is obvious that an extension or branch, if it does not pay directly, cannot pay through carrying passengers to a main line where they ride a long distance. The nickel pays for the entire ride, and the longer it is the more it costs the company. But there is another way in which extensions that are not profitable according to their showing as treated separately, may nevertheless pay indirectly. A city street-railway system is interested in the development of its business center. The development of the business center is dependent upon the growth of a tributary population, and this involves the development of outlying residence districts. The development of outlying residence districts depends upon the building of extensions. The business man who comes to town in the morning will perhaps spend two nickels for short rides in the business section. And his wife shopping in the afternoon may spend two more. The only way such

profitable business in the center of the town can be made to grow is by increasing the residence population tributary to the business center. To do this, cheap transit must be provided. Of course there are limits beyond which the street-railway system cannot afford to extend its lines for a nickel fare. But those limits are always something less than what they would be if an extension were always required directly to pay for itself. Not only will such an extension develop business which will afford more and more nickels as the neighboring population grows, but some of the increase of the business center traffic of the old lines may properly be attributed to it. This contribution, however, is general or common to whatever lines serve the latter traffic rather than confined to those controlled by the company building the extension. But the American city is in general served by a single inclusive system, which thus gets the full benefit of extensions and outlying lines.

It follows from the above that it is *not* necessary that every line of a street-railway system should pay for itself separately and directly and immediately. In every business large outlays are made with no expectation of immediate and direct return. Outlying lines of street railways in particular come under this principle. It is a very difficult practical problem to determine just how much an extension may economically be allowed to fall short of paying for itself. But in general a street railway should consider all the possibilities beforehand and take the consequences of its judgment. Because of the vested interests impaired by the advancement of the rate of fare on any suburban line, the general principle of a flat rate should not be encroached upon because of small losses on outlying lines incurred by a company having a network of lines extending through an entire city.

If there is any sort of traffic which on grounds of public policy should be allowed to retain the customary five-cent rate to the end, it is just this traffic between home and work. The "fat" profits should not be taken here. It is even a debatable question whether a municipality should not, if necessary, subsidize traffic between healthful suburbs and the business center.

III. Certain Applications of Differentiation in Street-railway Practice

There are two points of view from which a particular rate should be judged, the one that of the railroad as a business enterprise, the other that of the travelling public. Each rate question raised should be adequately studied on its individual merits from each of these points of view, but always with due regard to the fact that the rate under consideration will be part of a system of rates more or less differential in its nature.

The most important question at issue between the street railways and the public is as to the limit of distance which a passenger may expect to be carried from the center of the city for five cents. It is a public interest and should be a fundamental point of public policy to make the five cents carry the passenger as far as possible. But in many instances the street railways have done all the public should require of them in this direction, partly because they have wished to exclude competitors from the exercise of franchises that they have expected to become valuable. The present task is one of equalization and adjustment of the limit of carriage for a single fare, and of bring-

ing it up to a reasonable standard in certain instances, rather than of generally extending it.

Whether that standard is 10 miles or something short of it we shall not attempt to say. It certainly is more than five. A mile for a cent is, in the opinion of many practical street-railway men, about the limit of the average ride for street-railway service. But the limit of distance of transportation from the business center is a question of the maximum, not of the average. Tho the length of ride on some extensions of surface routes appears to be unduly great, even after allowing these long routes some benefit of differentiation, yet if such lines are a part of a comprehensive system, that fact should be taken into account. The showing of the extension separately considered is not conclusive as to whether the five-cent rate is reasonable for it or not. We have above seen how the principle according to which a loss on a branch road may be no loss is, to a degree, also applicable to street-railway systems. The differential principle may, from this viewpoint, be applied with great force to favoring long riding into the suburbs. So far as increased short riding at the business center is a direct consequence of carrying more people to that center, it is not even necessary that the prime cost of the latter carriage shall be less than five cents, for it contributes largely, tho indirectly, to the profit from the short rides at the business center.

Even if the street-surface railways have sometimes over-reached themselves in the matter of extensions, it is not entirely clear that the public should be expected to pay the cost through an increased fare on such lines. The natural conditions of surface street-railway service protect such enterprises from any extreme development of long-haul business. The time con-

sumed makes the street-surface road the practicable means of transportation for only a limited distance from the business center. The outlying lines of surface railways in the very large cities will, in the long run, be used chiefly as feeders for more rapid means of transit. Long rides on such surface lines to the business center will then be exceptional, and will probably occur at such hours as would make their prime cost less than a nickel — else the rush-hour traffic is not true to its name and does not care for speed. Hardly more than the maintenance of the *status quo* is necessary to give due consideration to all interests as regards these long or outlying lines.

Those who speak for the railways are prone to make too much of extensions of line as an indication of increase in the average length of ride. Such extensions are doubtless made in response to a growth of population, which also means that the distance between residence and business centers is becoming increasingly great. But tho some are now riding longer distances between home and work, others who walked before are just pushed beyond the walking limit, and many more are attending to errands within the business center by riding short distances instead of walking. As a city grows the number of rides always increases faster than population. With an increase in population of 30 per cent, rides may be expected to increase 60 per cent.[1] While the five-eighths of the passengers representing the old business are doubtless taking a longer ride, the three-eighths recently gained are quite as clearly relatively short-haul traffic. It is evident that the change does not certainly mean a significant increase in the average length of ride.

[1] This is a conservative statement. Statistics bearing on the relation between urban population and street-railway traffic may be looked for in the 1910 report of the New York Public Service Commission, First District.

The accompanying increase in density of traffic also favors economical service; and the per capita contribution of the citizens to the support of the railway has increased faster than the extent of the latter's permanent plant.

It is the essence of any just conception of street-railway rates that the long-haul traffic between residence and business centers should not be considered by itself. If it is correct to compute separately the cost of this traffic and of inner-city traffic, it is even more certain that three cents is too much for the latter than that five cents is too little for much of the former. The fact is that the two are naturally and economically bound together. No rate policy for outlying districts should neglect this consideration.

Were there not the prospect of rapid-transit lines (with their low operating cost per seat-mile) taking over most of the long-distance home-to-work traffic, a radical rearrangement of fares on outlying surface lines might soon have to be considered. The system of differentiation cannot specially favor relatively increasing long-distance traffic. A kind of business that barely pays prime cost can be carried comfortably if it will remain only (say) 10 per cent of the total; but its growth to be 20 or 30 per cent might bring disaster. The steam roads are now feeling the effects of the disproportionate growth of favored long-haul traffic between large urban centers. Further extensions of street-surface lines in the largest cities, other than for rounding out an existing system, are not much to be expected under a uniform 5-cent rate. It is to the rapid-transit lines that must be entrusted the preservation of the single fare from increasingly distant residence portions to the business centers of the largest cities.

The relation of transfers to the rate of fare on street railways is a vital one. It has been so persistently the practice of railway men to count transfers as passengers and to figure an average fare on this basis, that it appears to some to be the natural means of increasing revenues to charge for transfers as if they constituted an additional service. For some purposes it is important to know the number of transfers. But the unit of service rendered by the railway company is the passenger trip and the unit of payment for that service is the single fare. The changing of cars is an accident of a passenger trip. The number of times it has to be done is determined chiefly by the routing of cars, or by the choice of a place of residence in relation to place of work that disregards this accident or incident of the daily journey. The necessity of changing cars would not be disregarded by the public if the transfer involved an additional payment. Under a system of pay transfers a company could, by an artificial routing of cars with a view to making the most of transfer receipts, considerably increase its revenues at a disproportionate cost to the public. Under such circumstances the routing of cars would have to become a matter for detailed public regulation. It is altogether better to allow the company to route cars according to its administrative convenience with regard to the direction of the movement of traffic. It will then try to reduce the need of transfers as much as may be, thereby combining economical operation with accommodation to the public. So long as the passenger trip, and not the passenger mile, is the unit of street-railway service, any reasonable trip that cannot be accomplished on a through car should be made possible by the use of a "free" transfer.

Because of the different competing economic interests involved, the case of a joint rate between separate companies or systems is ordinarily different from that of transfers between cars of a single system. Transfers have very properly been made the condition of consolidation, or a cost incident to it — if indeed their reasonable use in the long run may be said actually to involve any increase of cost. Real competition (as to service, the rate being fixed), however, is in itself so advantageous that it may be to some extent accepted in lieu of more transfer points. The reason for a difference of policy, however, as regards requiring transfers (at five cents per passenger trip) between the lines of a single company and a joint rate (at six to nine cents) between those of different ones, evidently contains its own qualification.

Joint rates may well be more than 5 cents, except where the corporations involved are not really independent and competing. Where they are competitors, the public gains from the opportunity afforded for comparing them as to grade of service and to some extent choosing between companies. Competition as regards the quality of service offered, the rate being fixed, has a value to the public which other sorts of competition between monopolistic enterprises do not have. But where the public cannot obtain the benefits of competition because of the control of nominally separate roads by a holding company, there is ground for requiring what is actually a transfer, tho legally a joint rate, wherever general or geographical conditions justify it.

It is the stock argument of those who oppose free transfers that they mean a declining rate of fare or an increasing length of ride, or even both. If the transfer be counted as a passenger, which is the way

to arrive at a declining rate of fare, it is not at all likely that the length of ride for such a "passenger" has on the average even held its own. If the revenue passenger be taken as the unit, it may be that there has been an increase in the average length of ride (including in the single trip its continuation on another car). Of course one or the other of these arguments must lose its force when the two are combined. But granted that the ride is longer, and granted also that this has come about by reason of the general use of transfers, it still does not follow that the physical cost of carriage (the car mileage involved) has correspondingly increased, or increased at all. The long rides effected by transfer will be in directions or over routes not much frequented, else the company would through-route cars over them and avoid the necessity of transferring so much. The longest rides effected by means of transfers, it would be generally admitted, are those from outlying parts of town somewhat into the business center and then out again in a different direction. Such rides are taken at odd times and also in such a way that in part they are likely to be back load on cars otherwise almost empty. They are therefore rather profitable than otherwise to the company. This is doubtless rather generalized geography. Some restrictions of the transfer privilege are entirely just. The general allegation as to length of ride, however, of itself proves nothing. Chicago has recently taken steps to favor precisely such surface traffic from end to end of the city across the business center.

According to the idea of differentiation here presented, the differential character may find expression either in charging a varying rate for substantially similar services or in charging the same price for

services differing in character. A highly important differentiation in the service of street railways is observable in the different conditions of carriage and treatment for rush-hour and non-rush passengers, the former being crowded and in large numbers compelled to stand, while the latter are given room and seats enough and to spare. Whether this is a reasonable differentiation is a question upon which the public seems to have adopted an opinion against the practice of the railways. The question is a particularly urgent one in the case of the New York subway. How far is the crowding there an over-crowding? The easy way to dispose of the matter is to assume that the number and proportion of standing passengers is the measure of over-crowding. But this assumes that it is feasible to maintain the same quality of service in the rush period and in the non-rush period, quality of service being defined with reference to the wishes of the passenger, namely, a seat at will for the length of his ride.

Does it mean the same thing, either from the viewpoint of the passenger or from that of the railroad, to furnish a seat in the rush period and to furnish one in the non-rush period? During the rush hour the average passenger trip is longer, in other words the passenger at that time wants more for his nickel. On the other hand, the providing of extra and otherwise little used equipment and employees for the peak-load means, for the railway company, a greater cost of the service per physical unit at this time. The demand for seats may be four or five times as great at the rush hour as it is in the middle of the day. It would seem that the only way to deal with this situation is to admit the necessity of a different standard of service for rush and non-rush periods, in other words,

of differential treatment. If the rate of fare is to remain constant, it would seem necessary to allow a company to provide relatively fewer cars for its rush-hour than for its non-rush travel. This must be the case if the company is to receive the same revenue per car mile, since the longer ride means heavier loading, that is more passenger miles and more passengers in the car at the same time, the number of passengers (fares) per car mile remaining the same. It is possible that the railways should be allowed even a little more than this. Perhaps the revenue per car mile ought to be somewhat higher for the rush-hour service. True, it is not at all inconsistent with a correct theory of railway rates that the relatively invariable ("fixed" and other) charges apportioned to non-rush traffic should be great enough to allow rush-hour traffic to escape with comparatively little burden in addition to prime cost. But the staple business of a railway company, that which needs no encouragement and is on the contrary willing to put up with pretty bad service, is not the portion most likely to be favored. And the prime cost itself may be expected to be somewhat higher in the rush than in the non-rush hour. So it is clear that "a seat for every passenger" cannot be adopted offhand as the standard of service during the rush. Over-crowding may not be the same as crowding enough to compel some passengers to stand.

But for the uniformity of street-railway rates, which is not only generally established but well-suited to the economic and other requirements of the situation, the rush-hour passenger might justifiably be charged more than the non-rush passenger. *Vice versa* it is not unreasonable that he should, paying the same fare, expect to have to put up with a somewhat less comfortable ride at that time. There is

certainly little economic ground for an especially reduced fare for this service, even tho its cheap performance be of the greatest importance.

The recognition of the presence of differentials in the customary five-cent fare helps towards an understanding of the most important questions of public policy in relation to street-railway rates. It is true that external differentiation of charges is seldom to be considered. The street-railway fare should in general be simple and single, and in America this means "flat" at the nickel. Transfers between car routes of the same company, having little to do with costs, should have as little to do with rates; they do not ordinarily constitute a peculiarity of the passenger trip that deserves special consideration. But the problem of a proper standard for rush-hour service should be regarded in its relation to differentiation. Crowding during the rush hour should be defined by reference to prime costs as well as to physical conditions. Most important of all, the limit of carriage to residence districts distant from the business center should be determined by a rather refined application of doctrines of prime cost and of secondary profits, and, as regards the surface lines, with reference to the self-limiting nature of the service. Rapid-transit lines are the natural means of preserving, for the largest cities, the "single fare" to their distant parts.

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THE PAPER INDUSTRY IN ITS RELATION TO CONSERVATION AND THE TARIFF[1]

SUMMARY

I. Requirements for success: cheap spruce and cheap water power, 652. — Peculiarity of market for news paper, 654. — II. Combination in the industry, 656. — Business policy of the "trust," 657. — III. The Tariff, 660. — Prohibition of exports of wood from Canadian provinces, 662. — Provisions of the Act of 1909, 664. — Importation of the pulps, 664. — The Conference Committee's insertion of a significant phrase, 665. — Importance of freight charges on pulp wood, 667. — Labor conditions in Canada and the United States, 671. — IV. Conservation, 673. — Methods of cutting timber, 674. — Analysis of causes leading to devastation, 675. — V. Conclusions as to the Tariff, 678. — American mills owning favorably situated woodland receive a rent, 679. — Probability of gradual extermination of inefficient and disadvantageously located mills, 681.

I. General Description

Although the present process of manufacturing paper from wood pulp was introduced into the United States about 1867, it was not until 1890 that the industry entered upon a period of marked growth and development. Improvements and economies in the method of manufacturing were devised frequently after 1890, and in seven years the price of common news paper fell from seven to two cents per pound — perhaps the lowest price it has ever attained in this country. The gradual departure of newspaper publishers from their aversion to increases in circulation (once regarded as unprofitable) led to the familiar one-cent metropolitan dailies of Mr. Pulitzer and Mr. Hearst, and their innovation was followed by others

[1] This paper received the first prize in the undergraduate competition of 1911 for Bowdoin Prizes in Harvard College.

in rapid succession.[1] The expansion of the industry was especially remarkable after 1897, and by 1905 the capital invested in the entire paper industry had risen to $277,000,000, and the annual product to $188,000,000[2]. The comparatively small annual turnover indicated by these figures is even more marked in the "newsprint" division of the industry — to which I shall confine myself in this discussion; here the annual product or turnover, $36,000,000, was probably one-half of the capitalization.

The wood now generally used in the manufacture of news paper is spruce, cut in the forests of Maine, New York, Minnesota, and Southern Canada, whence it is floated by river, or shipped by rail, to the mills of New England, New York, and Wisconsin. Two kinds of pulp are required: mechanical and chemical. Spruce is raw material for the pulps, and the pulps are raw material for the paper. Mechanical pulp is little else than ground wood, produced by the erosion of the spruce when held in contact with common grindstones driven by hydraulic power at the rate of three revolutions per second. But the fibres of the mechanical pulp are not long enough to produce a strong paper, and there is accordingly added "sulphite" or chemical pulp made from the cooking or digesting of spruce or hemlock in huge brick-lined steel digesters containing a solution of sulphurous acid, which eats away the lignum cells of the wood and leaves the pure cellulose. After thoro mixing and bleaching, the mass of water-soaked stock (four-fifths mechanical pulp and one-fifth chemical pulp)

[1] Report and Hearings of the Select Committee of the House of Representatives appointed to investigate the conditions in the paper industry, 1908, p. 763. Hereafter referred to as "Hearings."

[2] Census Bulletin No. 80, p. 32.

passes to the endless wire cloth of the paper machine and then goes through several systems of cylinders and rollers which mat it firmly together, evaporate the moisture and produce a hard-finished uniform web of paper wound upon the reels as we commonly see it.

From this short description it will be evident that the equipment of a company carrying the manufacture through all of its stages consists of three parts: mechanical pulp mill, chemical pulp mill, and mill containing the paper machine.[1] The three mills of such a balanced company can be erected for about $20,000 for each ton daily capacity of finished paper, or $2,000,000 for a "hundred ton mill."[2] In the two last mentioned mills, steam power is generally used: in the chemical mill to cook the wood, and in the paper mill to dry the stock and to secure accurate control of the machine. In the mechanical pulp mill, however, steam power is too expensive, and here we find one of the two most important factors determining the location of a successful pulp mill. Water power is an absolute necessity. In order to comprehend the full significance of this fact, it will be well to consider the requirements of a mill producing 100 tons of paper per day — less than twice the amount daily consumed by a metropolitan newspaper of 300,000 circulation. Such a mill needs about 80 tons of mechanical pulp daily, and for each ton of pulp it is necessary to use from 75 to 100 horse power operating throughout the entire twenty-four hours — or about 7,000 horse power for the 100 tons. Now this is an enormous horse power, and of the total 1,647,969 horse power

[1] The machines vary in size, but are usually over 100 feet long, manufacture paper 120 to 150 inches wide, and cost about $60,000 each.

[2] See estimates of Tariff Board, Report on the Pulp and Newsprint Paper Industry, 1911, p. 70.

developed in all industries by water wheels in 1905, not less than 717,989 was used in the paper industry.[1] In the last few years there has been a marked extension in the use of water power for electrical purposes, and as electricity can be transmitted for many miles, it becomes increasingly difficult for a pulp mill to survive in regions near large industrial centers where electric power is in demand for other purposes.[2]

Important as cheap power is, a second requirement is even more important in the location of a pulp mill, — proximity to large pulp wood areas. Cheap power and cheap wood are unquestionably the essentials for success in pulp production. Canada has these essentials to a marked degree; Maine still has them; but in New York the extensive lumbering operations have seriously depleted her once magnificent forests. England, having no pulp wood within her own borders, imports the pulp in a wet or half-dry state and manufactures, as well as imports, the finished product. Germany imports the wood from Austria, Finland, and Russia, and makes both pulp and paper. But, in general, inasmuch as 5,500 pounds of rough spruce are necessary to make one ton of paper,[3] it can be laid down as fundamental that the location of a pulp mill is governed by nearness to raw material and not by nearness to market. Even the granting of favorable freight rates upon rough wood has served only in part to counteract the constant tendency in the United States to locate new mills farther and farther northward upon streams that drain the wooded areas.

[1] See Special Report of the Census Office on Manufactures, 1905, Part I, p. 514; also Census Bulletin No. 80, p. 36.

[2] See Special Report on Central Electric Light and Power Stations, 1907, showing increase of 900,000 horse power from 1902 to 1907 for electrical purposes.

[3] See Hearings, p. 1051 and p. 1077.

Turning now to the distribution of the product, it may be said that in a certain sense there is no active market for news paper. The quality can be standardized, but news paper is not a commodity capable of ready sale because in the huge presses of the metropolitan papers the width of the press rolls varies considerably.[1] A publisher might have difficulty in securing upon short notice any considerable quantity of the desired size. There has arisen, therefore, in the "news" division of the paper industry, the custom of annual contracts[2] by which the manufacturer usually agrees to deliver upon the sidewalk outside the press-room such amounts (within the contract limits) as are required by the publisher, and in addition to keep in reserve stock at a warehouse, a two weeks' supply. There remains for the open market a comparatively insignificant portion of the total production. At any one time the reserve stock is so small that a three weeks' strike of the workmen in all paper mills (barring importation) would stop every newspaper in the country.

Another feature of the sale of news paper has perhaps occurred to many purchasers as they buy their copy from the news-boy. In the language of the economist, the demand is fluctuating and inelastic. It fluctuates over short periods because of sensational news happenings like political revolutions and earthquakes. It fluctuates also over long periods because of the waves of prosperity that stimulate advertising and thus increase the number of pages and purchasers. In the main, however, the demand is strangely inelastic, because a rise in the price of the blank white

[1] See Paper Trade Journal, November 11, 1908.

[2] See Hearings, p. 1555, for specimen of contract.

paper does not decrease the publisher's demand for it. The cost to him of the paper in a sixteen-page issue is one-half a cent, but he is powerless to raise his selling price from one cent to one and one-eighth cents on the ground of a rise in the price of white paper. Indeed, he is in the business not to curtail but to increase circulation, and he is so situated that variations in the price of his raw material cannot be shifted easily to the ultimate consumers. Of course, large diminutions in his profits in the long run will deter prospective publishers from investing their capital, and even in the short run may compel advances in advertising rates, followed, perhaps, by a decrease from 16 to 12 pages, and decreased daily sales. But it is evident that within very wide limits it is the publisher, the immediate consumer, and not the ultimate purchaser who is most affected by fluctuations in the annual contract price. A greedy monopoly, therefore, if complete and effective, might wield this quasi-taxing power to extort from the publisher of a highly remunerative newspaper, at least a share of the profits arising from highly skilful conduct of the business.[1]

Before investigating the question of whether there exists such a greedy and effective monopoly, let us consider the advantages of large scale production in this industry. At the present time, some plants consist of only the paper mill proper; other establishments buy their chemical pulp; others grind but half their requirements of mechanical pulp. There seems to be no imperative necessity of conforming to the three mill type as above described. There is, how-

[1] Consider two newspapers of equal circulation, the same advertising rates and the same selling price, but one more profitable than the other. A monopoly could secure a higher price for paper from the former because there is no possibility of raising either selling price or advertising rates.

ever, one advantage in a large output of finished paper. The publisher of a large metropolitan daily dislikes to contract with a small company, which may operate but one machine of eight or ten thousand tons annual capacity. Many newspapers consume more than this amount annually, and if the manufacturer agrees to deliver paper up to his total capacity, any accident may cause him to violate the contract clause concerning reserve storage. The violation may have no disastrous consequence, but the possible inconvenience to the publisher is sufficient to induce him to patronize a company that never is forced to purchase in what is virtually a contract market. A combination of mills under one management has, in this respect, a decided advantage, for risks of accident can be widely distributed, altho a strike of the workmen in all mills of the combination may so accelerate the depletion of the reserve stock as to cause early embarrassment.

II. Combination and Competition

In the late nineties, when the mania for industrial consolidation was so pronounced, the paper industry did not escape the general tendency, and the International Paper Company, or so-called trust, was formed in 1898 as the successor of about twenty-one individual concerns. At that time the company controlled probably 75% of the total output of news paper in the country; in 1900 its control had dropped to perhaps 65% of the total, in 1904 to 42%, and it is now (1911) probably about 30%. So far as it was designed to become a monopoly, it has not been successful. From the following figures it will be seen that in volume of business it has had no remarkable growth.

PRODUCTION OF NEWS PAPER IN THE UNITED STATES BY TONS

	Total	International Paper Co.
1889.....	196,053[1]	.....
1899.....	569,212[2]	.....
1900.....	.....	370,000[4]
1904.....	912,822[3]	386,000
1907.....	.....	412,000
1909.....	1,176,000[3]	.....
1910.....	1,200,000 estimated	.....

Financially its success is even more questionable. Its outstanding bonds total over $17,000,000, and its stock issue consists of $22,000,000 6% preferred (upon which the dividends for the last two years have been but 2%) and $17,000,000 of common stock, upon which no dividends have been paid since the year following the offer of the securities upon the market. Its capitalization is somewhat higher per ton of capacity than that of its most vigorous competitors, and there is ground for believing that its common stock was originally pure water.

The business policy of the trust has been very sharply criticised, especially with reference to its investment in timber lands. During its early years, part of the net earnings seem to have been invested in woodlands. In 1908 the company owned 912,685 acres in fee in the United States, 167,684 acres in Canada, and, through the medium of subsidiary companies, rented 2,689,280 acres of timber land in Canada. If it be true, as defenders of the company intimate, that these vast holdings constitute a valuable "secret reserve," it must not be forgotten that dividends can be paid therefrom only when the lands

[1] Census of 1900, Part 3 on Manufactures, p. 1020.

[2] Census Bulletin No. 80, p. 13.

[3] Advance figures of Census Bureau. Tariff Board report, p. 21.

[4] Hearings, p. 1102.

or timber are sold, or when the timber is manufactured at a profit. It is extremely doubtful whether the annual increase in value due to the rise in price of timber lands equals the profit that ought to arise from efficient operation of the mills. The investment in timber lands not only lends color to the charge of speculation, but it is a serious question whether the net earnings might not have been spent more wisely in new machines and equipment. Soon after the incorporation of the trust in 1898, it was charged before the Joint High Commission for the adjustment of questions between the United States and Canada that the machines of the company were antiquated.[1] Inasmuch as only one "news" machine has been added (making a total of 67),[2] it would seem that by 1908 the charge had received ten annual increments of truth. If the object of the trust has been to secure as much wood as possible from Canada[3] in order to enhance the value of its land in this country owing to the diminishing supply, its policy in this particular has been shrewd.

But in competition with newly organized companies that avail themselves of the latest machinery, the International has found itself at some disadvantage; and the water sites for new concerns are still so numerous and the forest area so extensive that it can never again hope to maintain a monopoly of the industry as it expected to do in 1898. Nevertheless its share of the total production in the East (*i.e.*, New York and New England) is so large that it virtually dominates the market, and its representative has admitted that "possibly in a sentimental and moral way"[4]

[1] Report of the Industrial Commission, vol. 13, p. 415.

[2] Hearings, p. 1072. [3] Ibid., p. 1029. [4] Ibid., p. 1182.

it is in a position to control the price of print paper in the United States.[1]

What the International Paper Company tried to do in the East, the General Paper Company attempted in the middle western states. This company, with headquarters in Chicago, was organized in 1904 as a selling agency for 23 mills, and until an injunction was obtained against it by the Federal government,[2] seemed to control the western situation, altho there is no positive evidence to show collusion with its eastern rival. The traffic agent of that combination was still employed in 1908 jointly by several of the former members of the company,[3] and it is believed by many that there is enough harmony of operation to constitute a violation of the Sherman anti-trust act.

Whether or not there is actual restraint of trade, it must be said that, tho competition is often visible, there likewise comes to light evidence of combination or "coöperation." Social-business meetings have been remarkably frequent, and there is extreme friendliness among the manufacturers. Not only do all report their monthly production to the American Pulp and Paper Association, but there is in several instances a curious interlocking of interests. Action by the Federal government has resulted in the con-

[1] The control of a large part of the output seems to be concentrated in a very few hands. Out of a total daily production of perhaps 4,200 tons, the following amounts are attributed to individual mills: —

International Paper Co.	1,476	tons
Great Northern Paper Co. (Maine)	450	"
Berlin Mills (N. H.)	225	"
W. H. Parsons Co. (Maine)	140	"
Selling Agency in New York	500	"
Western "interests" formerly connected with General Paper Co.	700	"

[2] Hearings, p. 1778.

[3] Ibid., pp. 1679–1683.

viction of the members of the "boxboard"[1] and "fibre and manila" (or wrapping paper)[2] pools, and it would not be astounding were it to be discovered that a similar pool exists among the manufacturers of newsprint paper. The conviction of the Continental Paper Bag Company for participation in the wrapping paper combination only a month after the Manager of Sales of its controlling company (the news paper "trust") had stoutly maintained under oath that the trust was in no way interested in any pool, either directly or indirectly,[3] leads one to doubt protestations of innocence, and to believe that this statement in particular was, to say the least, a perversion of the truth.

III. The Tariff

The formation of the trust so soon after the enactment of the protective tariff act of 1897 has not been overlooked by those who are prone to regard the tariff as the cause of all evil.

The act of 1897[4] transformed the 15% *ad valorem* duties upon news paper, levied under the acts of 1890 and 1894, into a 15% duty with $6.00 a ton as the minimum duty collectively. There was inserted a peculiar proviso which can be understood more easily after some discussion of the method of securing rights to cut timber in Canada.

The Parliament of Canada of course regulates the commercial relations of the Dominion, but the public lands in the eastern section are owned not by the Dominion but by the various provinces. These

[1] Paper Trade Journal, March 31, 1910.

[2] Cong. Record, 61st Cong., 1st Sess., vol. 44, p. 3468.

[3] Hearings, p. 1175.

[4] U. S. Statutes at large, vol. 30, p. 187.

provinces usually auction off the privilege to cut timber on the public or "crown" lands to the highest bidder at an "upset" price of about $1.00 per acre, and in addition charge an annual ground rent of a cent an acre,[1] besides a stumpage tax collected when the wood is cut. Prior to May 1, 1910, the stumpage tax in the province of Quebec was sixty-five cents per cord, by which the province was able to derive a comfortable income. But if the wood was manufactured into pulp within the Dominion of Canada, twenty-five cents of the stumpage tax was refunded, leaving a net charge of forty cents per cord.[2]

A proviso was accordingly included in the Dingley Act that if any country or dependency (meaning the Canadian provinces) imposed an export tax on wood exported to the United States, there should be added to the duty on paper, $2.00 per ton for every dollar of export tax so imposed. Our treasury department considered this stumpage tax of sixty-five cents equivalent to an export tax of twenty-five cents, and therefore collected $\frac{25}{100}$ of the provisional $2.00, or fifty cents in addition to the regular duty of $6.00. This additional fifty cents, however, was not collected upon paper manufactured from wood cut upon land owned by private parties in Quebec, because tho the provinces can direct the disposition of wood cut from their own lands, they have no right to restrict the exportation of a citizen's private property, such power being vested in the Dominion Parliament.

The evident intention of the proviso in the Dingley Act was to induce the provinces to remove their discriminatory taxes upon the export of wood. Quebec refused to do so, however, and Ontario even went a

[1] It is now $5.00 per square mile in Ontario and Quebec.

[2] Hearings, p. 2939.

step further and soon absolutely prohibited the exportation of wood cut from her crown lands — for which the Dingley act had failed to provide any penalty whatever. As a result, saw mills of Michigan that had been in the habit of rafting their logs across the lake were forced to move into Canadian territory.

During the early part of the year 1907, the price of news paper in this country suddenly rose to an extent that alarmed several publishers, and their agitation through editorial and news columns led to the appointment of a select committee of the House of Representatives to investigate the "conditions" in the industry. This committee recommended [1] that the duty be lowered, conditional, however, upon the cancellation by Quebec and Ontario of discriminations against the exportation of wood.

As finally passed, the Act of 1909 provided that the duty be $3.75 per ton, but if any dependency prohibited the exportation of wood, an additional duty of $2.00 was to be levied, making $5.75 on paper imported from such province. If any province taxed the exportation of wood, paper entering therefrom was to pay the amount of the export tax in addition to the $5.75. Our Treasury department has decided that 1.4 cords of wood are required for a ton of paper,[2] and therefore the addition in the case of paper from Quebec was 1.4 times twenty-five cents, or thirty-five cents. Hence the total duty (up to May 1, 1910) upon all print paper manufactured from wood cut upon crown lands (but not private lands) of Quebec was $6.10.

Upon May 1, 1910, Quebec made the next move [3] by prohibiting completely the exportation of wood

[1] Their report and hearings comprise over three thousand pages.

[2] Paper Trade Journal, September 2, 1909. [3] Ibid., April 28, 1910.

cut from her crown lands, as Ontario had done ten years before, so that at present writing there are but two rates in effect, — half of our imports of news paper entered, as cut upon private lands, with a duty of $3.75 per ton, and the balance entered at $5.75 per ton.[1] The victory, therefore, seems to rest with the provinces, for not only are they able to export part of their paper to us at the lower rate of $3.75, but also to deny us the privilege of using wood from their vast areas of crown lands.

The following figures show the imports of news paper: —

IMPORTS OF NEWS PAPER INTO THE UNITED STATES[2]

Fiscal Year	Tons
1899	0
1900	85
1904	1,890
1907	8,733
1909	18,044
1910	43,388
1910 last six months	25,956

The imports of paper, tho they have steadily increased, formed but 4% of our total consumption in 1910.[3] Since 1909 the imports have increased rapidly, but it is impossible to determine how largely the reduction in the tariff has been responsible, because a serious strike in all mills of the International Paper Company during the early part of 1910 may have necessitated the importation. It is the opinion of the writer, however, that if conditions remain as at present, increased importations may be expected in the future.

[1] Paper Trade Journal, November 10, 1910, p. 9.

[2] Reports of Department of Commerce and Labor.

[3] Practically all of our imports of news paper come from Canada, possibly because freight on the European product is prohibitive.

The two kinds of pulp are such important constituents of news paper, that it will be necessary to state briefly the tariff rates. Under the Dingley Act, the duty upon mechanical pulp was $1.67 per short ton, but $1.92 in case the pulp was made from wood cut on Quebec's crown lands. In the act of 1909, mechanical pulp was admitted free if ground from wood cut on private lands; $1.67 if ground from wood cut on the crown lands of a province prohibiting the exportation of pulp wood, and $1.92 as before if subject to the export tax. The reader will readily excuse the collectors of revenue on our northern border for writing to Washington for full interpretation of these various provisions. In the case of chemical pulp, the duty was $3.33 per ton under both acts, with provisos in case of discriminations.

All of our imports of mechanical pulp come from Canada; of our imports of unbleached chemical pulp, one-fourth comes from Canada, and the balance, especially the higher grades, is imported from Europe. The following table presents the figures of imports since 1899:—

IMPORTS OF PULP

Fiscal Year	Mechanical Pulp Tons	Unbleached Chemical Tons
1899	24,000	7,000
1909	130,000	132,000
1910	160,000	187,000
1910 last six months	104,612	102,750

It is to be noticed that the imports of mechanical pulp since 1909 have been increasing with remarkable rapidity. Our imports form probably 16% of the domestic consumption of mechanical pulp and 15% of the chemical pulp consumption. Both the mechanical and chemical pulps are used also in making

book and other papers. At the present time one-half of the mechanical pulp enters free,[1] but the importations of both kinds of pulp are doubtless significant enough to raise the domestic price by the full extent of the duty.

Even tho half of the mechanical pulp enters free, the selling price delivered in this country would be the same for either portion. Therefore it is probable that those who do not pay the duty are really receiving a bonus. These Canadian pulp manufacturers who thus escape the duty, however, cannot permanently retain this advantage,[2] but will be forced by their own competition to transfer it to the private owners of woodland in Canada, who, in selling their wood can secure a higher price than do those who license the crown lands, because the licensees have a different commodity to sell. The owners of private land doubtless are not sorry to see the capital value of their timber land thus enhanced.[3]

An interesting phrase, fortunately of no actual effect, but potentially of far-reaching importance, was inserted in the Act of 1909 by the Conference Committee of the two houses of Congress. Under the provisions of Section 2, the maximum tariff of 25% *ad valorem* in addition to the minimum duties as previously described may be assessed against

[1] Imports of Mechanical Pulp:—

	Fiscal Year, 1910	Last 6 months, 1910
Free	80,000 tons	53,000 tons
Dutiable	30,000 "	51,000 "

[2] Otherwise their competitors using wood from crown land would begin purchasing private wood.

[3] It is possible that such an enhancement is not of permanent duration, because whenever the time comes that the pulp imported into the United States is made entirely from this private land wood, our domestic price will tend to fall. All the pulp would then enter free. The license holders seem to obtain their wood from the provinces upon very easy terms, so it is quite conceivable that even now they meet the competition of the private owners and thereby forego a portion of that revenue which accrues because the province does not exact a maximum or "rack" rent.

any foreign country that prohibits, or imposes a duty upon, the exportation of any article in undue discrimination against the United States. This provision was undoubtedly levelled at the Canadian regulations as to wood from crown lands, and may be attributed to the influence of Senator Hale of the Conference Committee. Representative Mann, Chairman of the Select Committee that investigated the conditions in the paper industry, said in Congress:[1] "Among other things, it (the Conference Committee Bill) provides that the maximum tariff shall be imposed upon a foreign country if that country shall impose any export tax. That provision was not in the House Bill. It was not in the bill as it passed the Senate. The words 'or imposes no export duty' were inserted in Conference, and I believe were inserted at the suggestion of a few paper manufacturers in order to impose the maximum tariff upon paper coming from the Province of Quebec." It is not to be wondered at if the paper manufacturers through their associate and spokesman, Senator Hale, used their utmost efforts with the administration, to insist upon a strict construction of the provision. The existence of such a drastic clause in the tariff act, even tho it may not have been inserted clandestinely, reflects but scant credit upon the method of framing our tariff legislation. Fortunately, the President, probably influenced by the newspaper publishers in particular, and public opinion in general, decided that the Canadian restrictions were not an "undue" discrimination.

The immediate effect of the present tariff may be merely to increase the cost to the consumer by $5.75

[1] Cong. Record, 61st Cong., vol. 44, part 5, p. 4732. See also texts of the bills in House Doc., vol. 4, pp. 288, 354, 429 (same session).

on each ton of paper; the less direct effect, however, is that the tariff permits and stimulates production in this country whereas it would more naturally take place in Canada. If the tariff were twice as high as at present, it is possible, but not probable, that the selling price of paper here would be the sum of the duty and freight, plus the Canadian cost of production, a price which would enable a profit to be derived from using American woodland that now cannot be used because of high freight charges upon the wood shipped to the mills. It is more probable, however, that under conditions of free importation of wood (as has always been the case in the past) even if the tariff on the finished product were increased tenfold, our selling price would be determined not by Canadian cost of manufacture, but largely by adding to *our* manufacturing cost, the expense of securing Canadian wood and delivering it to our mills. Of course, if these freight charges on pulp wood were enormously in excess of the freight charges upon the finished paper, then the tendency would be toward the importation of the Canadian paper as in the case of a very low duty. The selling price might then be figured as the sum of Canadian cost, freight, and our duty. Secondly, the tendency would be to utilize poorly located American woodland. As to what will, or what does, determine the proportion of American wood to Canadian wood used, it is unwise to hazard a guess.

One of the most important aspects of the situation, altho seldom seen in its full significance, is this item of freight charges upon the wood imported. Not only do we import almost one-fourth of our present consumption of pulp wood, but upon thousands of cords the transportation charges by rail amount to

a considerable fraction of the total cost of the delivered wood.[1] In some cases the freight charge is $6.00 a cord, or two-fifths of the selling price. The paper ultimately made from this wood meets the competition of paper shipped by Canadian manufacturers, who, as time goes on, will gradually introduce improvements in use here, but not yet common in Canada. If these Canadian manufacturers are thus able to reduce their present manufacturing cost, our manufacturers will be stimulated to further economy. Not the least important of their efforts will be directed to bringing pressure to bear upon transportation companies for low rates upon the bulky raw material, pulp wood. It does seem absurd, other things being equal, to dump the waste of the manufacturing process into American rivers *after* it has been transported from Canada, instead of throwing it into Canadian rivers and shipping down but half the weight in finished product.

Indeed, the present conditions involve not only the shipment of pulp wood to mills in New York and Maine, but also shipment of paper from these mills to the large cities. Affidavits presented to Congress state that the freight charges upon portions of the wood are $5 and $6 per cord, whereas the selling price of the wood delivered varies from $9 to $15. Upon the finished paper, the freight from the mills to Boston and New York is between $2 and $3 per ton; if shipped from Canadian points, about $4. Hence transportation charges upon the raw material and upon the finished product are at least one-fifth of the total charge which the publisher is called upon to defray. Often the traffic agent is compelled to grant

[1] See Hearings, pp. 1050–1, for rates on pulp wood.

a low rate upon the pulp wood because he thinks otherwise he would have no paper to transport; another line might get it if all the finished product were made in Canada; and the shipment of both paper and pulp wood appeals to him as an increase in the volume of traffic, and consequently a source of profit to his company. Yet just as decisively it seems to the writer to be, from the view point of the community at large, an uneconomical waste of effort.[1] The freight agent feels that the low rate may maintain the manufacturer in business, and if so, there will be a traffic in mill supplies, which, regarded as an additional increment of business for the railway, is pure gain. But he forgets that if the manufacturer were in some other business in which natural advantages are greater, there would be not only as much traffic in supplies, but higher rates could be charged on the raw materials for the other industry, than can be paid on the bulky pulp wood.

It must be admitted, in this connection, however, that if the tariff is abolished and competition becomes keener, there might be a still stronger pressure upon the railroads for lower rates on the raw wood, and the present condition might become somewhat accentuated. Likewise, it is probable, that as a larger area of Canadian timber land is drawn upon, there will appear in Canada the same practice of shipping wood to the Canadian mill and shipping paper thence to the consumer in the United States. But something will still be saved over the present method, because it will be less expensive to ship the pulp wood from the forest to the Canadian mill than from the same forest to the

[1] Hearings, p. 3123. Rates from Canadian points to our western cities are the same as from our eastern mills.

American mill still farther away.[1] And, too, if the reader will look at the map of eastern Canada, he will be impressed by the large number of long rivers flowing southward into the St. Lawrence that greatly facilitate the transportation of logs by water to the Canadian mills.[2]

However important may be the incidental effects of the tariff, it is fair to say in general that the duty upon news paper, in comparison with the ordinary protective duties, is, and has been, very low: 15% under the act of 1897, and in 1909 nominally but about 9%. The nominal rate of $3.75 (or about 9%), however, now applies to but half the imports of news paper. Indeed, unless the Canadian provinces can be persuaded, or intimidated, into removing their prohibitions upon the exportation of wood, $5.75 will tend more and more to become the usual duty, owing to the eventual diminution of the wood yield from the timber lands in Canada owned by private citizens.

But even if the tariff raises our domestic price above the Canadian price to the full extent of the duty, the total tribute paid by the consumers of news paper is not greater than $5.75 multiplied by the number of tons annually consumed (1,100,000) or roughly about $6,000,000. Moreover, were it not for the fact that our paper companies are the owners of extensive tracts of timber land, it might even be said that the duties upon the two kinds of pulp reduce the net protection to the manufacturer by at least one-third of the $5.75. Assuming that altho

[1] Under the latter system, of course, there is a saving in the transportation of the finished paper, but this is less than the extra cost of shipping the wood.

[2] A mill at Ottawa receives logs floated from a point 400 miles upstream.

part of the mechanical pulp enters free, the selling price of the whole supply is raised by the full duty of $1.67, then the duties upon the chief constituents of news paper may be figured as follows: —

⅓ ton chemical pulp at $3.33 per ton	$0.66
⅔ ton mechanical pulp at $1.67 per ton	1.33
	$2.00

For all those manufacturers who use imported pulps, these duties enter as a part of cost of production, and are not a source of profits, so that the excess in price of paper due to the tariff and paid by the consumer goes partly to the government in duties, and partly, as already pointed out, to the private owners of Canadian timber land because these owners possess an advantage over neighbors who license crown lands.

In general, too, it must be emphasized that the industry is not in a state of normal equilibrium either here or in Canada. It is not so here, because the perplexing uncertainty of legislation and of future wood supply makes investors wary in constructing new mills that might more profitably be located nearer Canadian forests. It is not so in Canada, because the meager development of the industry has not allowed time to determine whether the best location is in Quebec or in the more remote regions of Labrador and Newfoundland.

Except with regard to wood supply, it seems to be the fact that the manufacturing conditions in Canada conform very closely to those in the United States. The figures given in the report of the Tariff Board indicate that there is no great difference in labor cost *per ton* of finished paper: —

AVERAGE COST OF PRODUCTION OF NEWSPRINT PAPER

	United States	Canada
Labor cost	$6.29 per ton [2]	$5.63
Cost of wood	14.32 " "	8.73
Total cost [1]	32.88 " "	27.53

It will be seen that in either country the labor cost is not of paramount importance, and that the advantage of Canada lies in its cheaper wood, or rather in the fact that freight charges upon that wood are negligible. Skilled laborers in Canada are paid high wages, and some of them are former Americans whom only higher wages could induce to cross the border. Unskilled laborers, perhaps, are paid smaller wages than in this country, but they are seemingly less efficient. The wearisome reiterated statements of manufacturers concerning wages paid by our northern competitors lose their force entirely when we observe cost of labor per unit of output. When considered in conjunction with trade journal reports of the lax methods of the Canadian mills, these statements ring very hollow. So far as alterations take place in general prices, in standards of living, or in labor conditions generally, it is likely that Canadian manufacturers will be affected in the same way and in approximately the same degree as the American producers.

To conclude this phase of the discussion of the past effect of the tariff, the writer believes that until 1904 or 1905 the tariff did not raise the selling price

[1] Not including depreciation or interest on investment.

[2] The figure $6.29 is obtained by adding to the labor cost in the paper mill ($3.27) the cost of the labor performed in the manufacture of ground wood pulp and sulphite pulp. The American cost of the ground wood used in a ton of paper is given as $13.27, which is the cost of 90.9% of a ton at the average cost of $14.59 per ton of ground wood. This is considerably more than the 80% of a ton usually calculated, but as the proportion in Canada is 88.8%, the discrepancy does not seriously impair the value of the table. Tariff Board Report, p. 39.

of paper to any noticeable extent, for it is then that the prices of American spruce display a marked upward tendency.

IV. Conservation

But even if it could be demonstrated that there is no economic waste in the shipment of a weight of pulp wood from Canada double the weight of the finished product, even though the labor and operating cost of manufacturing were higher in Canada than in this country, and even if the tariff were to exact no tribute whatever from consumers, there is one consideration of so great portent to our future industrial welfare as to outweigh all others and stamp the duty upon paper as distinctly unwise and harmful.

In the matter of wood supply, we are at a serious disadvantage. We are suffering the consequences of a past and present wanton destruction of forests that is in striking contrast with the saner policy of European countries, or with the more prudent attitude of Canada. There was a time when our forests were described as inexhaustible, and we have continued to act on that assumption long after we have realized its falsity. If the present consumption of spruce in the East and North (3,750,000 cords for lumber and 1,500,000 cords for pulp) is maintained for but twenty years, the entire supply will be destroyed.[1] It requires 75 years, however, to grow a good-sized spruce forest from the seed and at the present rate of consumption we shall soon find ourselves with no supply of our own, and moreover probably debarred from Canadian tracts. With our timber area decreasing rapidly, it is by no

[1] Circular 166 of the Forest Service, 1909, p. 9. See also p. 22 and p. 72 of Forest Products No. 10, 1908, entitled Forest Products of the United States, 1908.

means strange that we have turned in the past to Canadian sources. As has already been noted, the importations of pulp wood (almost entirely spruce) are now about one-fourth of our total consumption. The following figures show the situation.

	Importations of Pulp Wood	Total Consumption
1899	368,000 cords[1]	1,956,310 cords
1909	907,000 "	4,002,000[2] "
1910	931,000 "	

The above figures, indicating the actual practice for years past of importing wood, are perhaps the most effectual refutation of the statement made with such brazen disregard for accuracy that we have "enough" wood of our own. It is true that the forest area of New York, New Hampshire, Maine, and Vermont is estimated at 32,900,000 acres,[3] of which the paper companies own at least 2,500,000 acres; it is true that this area might yield four million cords annually if only the annual growth were cut. But it is just as unerringly true that if more than the annual growth is cut, the total area eventually will be diminished. The quantity of output may be the same whether only the annual growth of a large region is cut or a small area is stripped bare of all its timber. The blame attaching to our past conduct lies not in the practice of cutting a quantity unnecessarily large, but in this manner of "cutting clean" — of devastating an area of its entire stand of timber.

Of even greater importance than the destruction of forests may be the loss entailed through abnormal variations of the volume of water in our swift-flowing

[1] Census Bulletin No. 80, p. 12.

[2] Circular issued October 18, 1910, Bureau of the Census Department of Commerce and Labor.

[3] Circular No. 166, Forest Service.

rivers. Probably all readers are familiar with the recent literature upon the subject. Therefore it is sufficient for the present purpose merely to remark that the denuding of hillsides leads eventually to summer droughts and spring floods, many of which seriously affect the water that drives the wheels of factories scores of miles down the river. Surely a section of our "protective" tariff that conduces to such a result merits the heartiest condemnation.

Many defenders of the paper industry resent the charge that they waste resources, and allude to the fact that the paper industry consumes but 2% of the total lumber output of the country. In comparison with the total cut of all kinds of lumber, the amount of spruce cut for pulp wood is insignificant. But there is an enormous amount of lumbering in the west and south which has little bearing upon the price of paper, or upon the devastation of the lands in those states where paper is chiefly made. In the paper producing states, almost half of the spruce cut is used for pulp wood, and altho there has been a decrease since 1899 in the amount of spruce cut for lumber, it has been almost offset by the increase in the amount used for pulp.[1] The following are the detailed figures:—

SPRUCE CUT IN PAPER PRODUCING STATES[1]
(New York, Maine, Vermont, New Hampshire, and Lake States)

	For Lumber	For Pulp Wood
1899.....	2,250,000 cords	900,000 cords
1908.....	1,700,000 "	1,300,000 "

Moreover, the paper industry makes use of smaller and younger trees that the lumbering industry is generous enough to spare.

[1] For figures of 1908: Forest Products No. 10, pp. 22, 72. For figures of 1899, see Census of 1900, volume on Manufactures, part 3, pp. 833–835, 842–843, 1030–1.

In further defence of the paper industry, representatives have pointed out that the industry is using lumber refuse, and odds and ends that would be burned were it not for the production of pulp. So much is true. It is true, also, that there are many opportunities to combine large lumber and pulp mills and thus to save odds and ends. But it must not be forgotten that even though the tariff be removed, those American mills that utilize lumber refuse doubtless could still survive because of their advantage over Canadian mills in nearness to American markets.

Altho censurable from the public point of view, the "clean cutting" of an entire area is the inevitable consequence of the desire for gain upon the part of the individual woodland owner. He trusts to the altruism of "the other fellow" and merely looks askance at the depletion of the supply. There is, to be sure, some conflict of interest. Taxes on his investment and the danger of a forest fire incite him to cut all his wood at once. On the other hand, the certain rise in price in the future if all other owners so cut their wood, leads him to hold his wood for a profit. Now it seems probable from the large importations of wood and from the extensive area of timber land still remaining in the United States, that the expected rise in price has acted powerfully enough in the past to deter the paper companies from cutting all their wood at once.[1] But when once the reluctance of the

[1] The following figures may be of interest:

	Valuation of Pulp Wood Imports	Quantity
1906	$4.43 per cord	322,758 cords
1907	4.84 " "	827,089 "
1908	5.79 " "	810,256 "
1909	6.18 " "	907,963 "
1910	6.55 " "	931,731 "

domestic owner to cut this wood is overcome, he usually strips the entire region;[1] this reduces the area which will yield next year's supply, increases the desire of others to hold for a rise in price, and compels increased importations from Canada.

The more accurate statement of this pressure upon the supply of wood is that the annual consumption exceeds the annual reproduction of the available forests. Virgin forests do not increase in their stand of timber; the mature trees die, rot, and are replaced. If the virgin areas are not cut, the annual growth, the present annual rot, so to speak, is forever lost. If, however, these forests were cut periodically of their largest trees (those that monopolize light and moisture), the annual growth after cutting would actually exceed the present amount of reproduction under natural conditions. Indeed, the Forestry Department recommends the selective cultivation of spruce because of three prominent characteristics of the tree: "its successful reproduction and seedling growth under shade, its tolerance and *ability to recover from long suppression*, and the presence of trees of all ages in typical spruce forests."[2] The success of European countries in reforesting under scientific methods leads one to believe that the value of this additional growth might exceed the cost of frequent cutting, and the further, though negative, advantage of not destroying valuable water powers points to prompt action and permanent control by the national government as a policy worthy of support by all far-sighted citizens.

Will not the recent prohibition of Quebec intensify the drain on our forests? We shall be debarred from

[1] There are occasional exceptions.

[2] Forestry Silvical Leaflets, No. 15, White Spruce.

the use of 150,000 cords heretofore secured from her crown lands.[1] To meet the demand for wood, the private owners may raise their price and thus hasten not only the extinction of their own supply, but also hasten the time when resort must be had to the crown lands. From the following table, it will be seen that the private lands are but a small fraction of Quebec's total forest area.[2]

FOREST AREA OF QUEBEC[3]

Held by private parties	5,000,000 acres	
Crown lands, unlicensed.....	80,000,000 "	
Crown lands, licensed.....	45,000,000 "	of which at least 3,000,000 are held by American companies.

An effect by no means incidental to this prohibition and consequent rise in price will be the utilization of timber lands in the United States located too unsuitably for profitable operation under the present conditions, and also the more intensive operation of lands already in use. In economic phraseology, our "margin of cutting" will be lowered.

V. CONCLUSIONS AS TO THE TARIFF

Perhaps it will be clear, after this discussion, that those American plants owning tracts of timber in the immediate vicinity of the mill have an advantage over any neighboring mills that are forced to im-

[1] Paper Trade Journal, November 3, 1910, p. 8.

[2] It is by no means improbable that a conflict will arise between settlers who desire further alienation of the crown domains, and the manufacturing interests that desire to encourage the growth of the paper industry there, by preventing further exportation of wood to the United States.

[3] Hearings, pp. 2886–7. These are the figures of the forester to the department of crown lands in Quebec, but are mere estimates because as yet there has been made no reliable survey.

port wood from Canada and pay a transportation charge of $3 or $4 per cord.[1] This extra profit is substantially an economic rent accruing to the paper company in its capacity as a woodland owner, and the manufacturer who owns no wood will pay to any owner the same price as for the Canadian material upon which the freight charges are incurred.

These mills of ours that are well located with regard to market and to wood will not be exterminated upon the abolition of the tariff upon news paper, except under the following condition. If the market is opened to Canadians, our manufacturers can compete only if they produce their pulp at a price low enough to yield a profit. To do this, they must secure spruce at correspondingly low prices. But the general demand for spruce as lumber may be so strong that buyers of lumber can bid more for the spruce than can the manufacturers who desire to use it in making pulp. In that event even our best mills would be unable to meet the competition of Canadian mills that have but slight transportation charges to pay upon their wood, and eventually must be dismantled or replaced by lumber mills. The abolition of the duty upon paper will merely transfer to the consumer, in the form of a lower price for paper, the tribute which he now pays directly to the paper company, indirectly to the woodland owners as an economic rent — a rent which is possible only because of the waste resulting from the double transportation of the finished product and the pulp wood from Canada as raw material for a portion of that finished product, instead of transporting but half as much of the finished product.

[1] It is possible that mills fortunate as to wood supply have disadvantages in other respects that tend to cancel this particular situation rent.

Quite contrary to the stand adopted continually by the manufacturers in their briefs presented to Congress, the writer holds that the abolition of the tariff will not compel the more speedy destruction of our forests in order to meet Canadian competition. The free admission of paper may mean not even any diminution whatever in the capital value of timber land, for the spruce now used for pulp wood may be used for lumber. Even if a part of the capital value were destroyed, no owner would hasten on that account to destroy the whole forest merely because it yielded less income than previously. Indeed, when the tariff is abolished, *less* wood will be cut than at present, because the wood now shipped from remote locations in the United States will not be able then to sell (as pulp wood) at a profit.

It is of course in the nature of things that some wood in Canada will be secured at a greater distance from the mills on good water sites than other wood, and the phenomenon of situation rent will appear in Canada to a more marked degree as their production increases and a larger area of woodland is forced into use. In order to compensate for the poor location of the far northern timber limits, the provinces auction them off at a lower original "upset" price, even tho the stumpage tax is the same in all cases.

Predictions are seldom useful, and in this case they are especially hazardous, for such contingencies as the discovery of a more economical process of treating lumber refuse, or of an entirely new raw material, or far-reaching alterations in rates of transportation may revolutionize the present methods and upset all calculations based upon existing conditions. Nevertheless, the writer ventures to state his belief that so long as spruce is not supplanted by other woods, and

even tho the tariff is maintained, our unsuitably located mills will gradually be driven from the field by Canadian mills. It is extemely doubtful, however, whether Canada even now could produce more cheaply than the majority of our best mills were it not for the expensive transportation of pulp wood from Canada. At least there is almost no doubt that if, by afforestation, there could be recreated in the vicinity of our manufactories, a large supply of pulp wood, we could retain the industry because of natural advantages over Canada in nearness to market and in the purchase of machinery and miscellaneous supplies. Competition for water powers in Canada or compliance with demands for higher wages may seriously increase operating expenses of Canadian manufacturers, offset only partially, perhaps, by the general improvements arising from the expansion of the industry. But theirs is a distinct advantage in nearness to the wood areas. American capital is already extensively invested in Canadian water sites and woodlands, and the day may be not far distant when the same manufacturers who now, as American citizens, advocate the tariff in their anxiety to protect American laborers, will clamor just as loudly, as investors in Canada, for the abolition of the tariff. Then there may arise, conceivably, an "All American" paper monopoly.

ROSCOE R. HESS.

THE GERMAN IMPERIAL TAX ON THE UNEARNED INCREMENT

SUMMARY

Recent development of this form of taxation in Germany, 683. — The action of the Reichstag, 684. — The law of Feb. 14, 1911, 685. — Exemptions, 685. — Computation of unearned increment, 686. — Original cost and permanent improvements, 687. — Retroactive provisions, 689. — Additions allowed to cost of improvements, 693. — Allowance for change in purchasing power of money, 695. — Selling price and deductions therefrom, 695. — Tax rates, 696. — Summary illustration of working, 697. — Revenue divided among Empire, states, and cities, 700. — Treatment of existing taxes of the same kind, 704. — Administration, 706. — Probable revenue, 707. — Conclusion, 708.

In an earlier issue of the *Quarterly* and elsewhere[1] may be found a discussion of the principles upon which the new German unearned increment taxes are based, together with some account of the forms these taxes have assumed in a few of the larger municipalities of that country. A brief statement regarding the subsequent development of the movement, culminating in the passage of an imperial law on the subject, February 14, 1911,[2] may be of interest at this time.

[1] R. Brunhuber on Taxation of the Unearned Increment in Germany, in this *Quarterly*, vol. xx, pp. 83-106 (Nov., 1907); also article by the present writer on The New Unearned Increment Taxes in Germany, Yale Review, vol. xvi, pp. 236-261 (Nov., 1907).

[2] The text of the law with a brief introduction is published in convenient form under the title Zuwachssteuergesetz v. 14. Februar, 1911, by Heymann, Berlin, 36 pp. A very useful commentary with the complete text of the law has been issued by Dr. Walter Boldt, Stadtrat in Dortmund, under the title: Das Reichszuwachssteuergesetz v. 14. Februar, 1911, mit Anmerkungen, Erläuterungen und Beispielen für Steuerberechnungen, also published by Heymann, 171 pp. Finally the administrative orders and forms (Ausführungsbestimmungen) for the execution of the law, officially issued March 27, 1911, have been reprinted by the same publisher in a pamphlet

A tax of this sort was introduced by the Naval Department of the German Imperial Government in Kiao Chau as early as 1898. First adopted at home by Cologne in 1905, the new tax promptly started upon a triumphal progress through the German municipalities. Before the end of 1907 it had been introduced by eleven cities, among which, besides Cologne, the more considerable were Dortmund, Essen, and Frankfurt-am-Main. Since that date the accessions have continued with increasing rapidity until by April 1, 1910, no fewer than 457 German cities and towns had adopted the unearned increment tax.[1] In Prussia alone 159 cities (Städte) and thirteen rural counties (Landkreise) had introduced it prior to 1910. As the new form of taxation found most favor in rapidly growing places of large or considerable population the true significance of the foregoing is greater than the bare figures might indicate. Of the Prussian cities and towns which had introduced the tax prior to April 1, 1910, twenty-seven had more than 100,000 inhabitants, seventy-two between 20,000 and 100,000, and sixty-four between 5,000 and 20,000. Berlin (2,018,279 pop.), after rejecting the new principle in 1907, finally accepted it in March, 1910. Nearly all the hustling suburbs of the metropolis had anticipated it in this action. Among other large cities not already mentioned which have introduced the unearned increment tax are Hamburg (874,878 pop.),

of 80 pages. Among other texts of earlier date which have been found useful are Justizrat Herman Kausen's Die Reichswertzuwachssteuer, Köln, Neubner, 1910, 155 pp.; Georg Haberland's Die Wertzuwachssteuer, Berlin, Unger, 1910, 60 pp.; and the Protokoll d. Hannoverschen Städtetags, Hannover, Jänecke, 1910, 69 pp., which contains the government's bill in its original form together with the changes made at its first and second readings.

[1] Of these 457 cities and towns, 301 were in Prussia, 77 in Saxony, 22 in Hesse, and the rest scattered throughout the other states of the German Empire. Cf. Boldt, p. 8.

Leipsic (503,672), Breslau (470,904), Kiel (163,772), and Wiesbaden (100,953). Altogether it is estimated that by April 1, 1910, the tax had been introduced into German cities and towns with an aggregate population of 15,000,000.

In 1909, the Reichstag devoted a great deal of attention to the reform of imperial finances. The possibility of employing the unearned increment tax as one of the means to this end was first seriously considered by the Imperial Diet in that year. Every party faction in the Reichstag expressed itself favorably upon the general principle involved, — a remarkable tribute to the impression made by the municipal experiments and also to the thoroness of the propaganda of the land reformers and economists on the subject. However, the Bundesrat postponed action on the ground that a thoro study of various kinds of real estate, and also of the interests of the municipalities which had already introduced the tax, should be made before a law on the subject could be properly drafted. Temporarily the place in the imperial budget to be occupied finally by an unearned increment tax was filled by a stamp tax (of $\frac{3}{4}$ of 1 %) on the selling price in real estate transactions, and the government was given until April 1, 1911, to bring in the proposed unearned increment tax.

Almost a year before the latter date, however, the imperial chancellor presented a bill on the subject to the Reichstag. The reason assigned for this prompt action was that it had become necessary to put an end to the uncertainty prevailing in the real estate market and among the municipalities of the country. After thoro consideration and numerous amendments the bill finally passed the Reichstag on

February 1st,[1] and received the imperial signature on February 14th of the present year. Formally the law went into effect on April 1st, but it contains retroactive features that will be discussed later.

As compared with the earlier municipal legislation on the subject the new imperial law is distinguished by its greater length and thoroness. Hence any discussion of its text, even one so general as that attempted in the present article, must of necessity be somewhat detailed and mercilessly dry. Even so it must be understood that many of the following statements are subject to further qualification and definition. Those interested in the minutiae of the new law are referred to the accompanying translation of its text.

A small number of exemptions from the tax are allowed. The Empire itself, princes of the German states, the states themselves, and municipalities are on the free list. Associations for colonizing purposes, for the housing of the working classes, and similar semi-philanthropic purposes are also exempted, provided they limit themselves strictly to 4% interest annually upon their investments. A number of carefully defined transactions connected with inheritances, marriage settlements, and the redrawing of boundary lines among scattered strips of real estate are freed from the tax. Sales of whole parcels of real estate not to exceed 20,000 marks in value, or of unimproved real estate not to exceed 5,000 marks, are exempt, provided that the income of the seller and his wife in the preceding year did

[1] On final passage the bill was carried by a vote of 199 to 93, 20 members not voting. For the bill the Conservative, National-liberal, Economic-unionist, and Free Conservative parties voted almost solidly. A majority of the Centrum and a part of the Independent party also voted for it. The Social-democrats and a part of the Independent party voted against it, while the Poles abstained from voting.

not exceed 2,000 marks, and provided further that neither of them is engaged in the real estate business. Unearned increment taxes which amount to less than 20 marks are not collected.

The method of computing unearned increment is, of course, fundamental in all legislation of this sort. Three main items are involved. Stated in the simplest forms they are: (*a*) the price paid for the property at the last purchase; (*b*) the cost of permanent improvements since made upon it, and (*c*) the selling price. Roughly speaking, the unearned increment is the difference between the selling price and the other two items.

One of the hardest fights made in the Reichstag over the bill turned upon the point as to whether in calculating unearned increment the cost of permanent improvements should be subtracted from the selling price or added to the purchase price. In other words, using the notation indicated above, should increment be figured as $c-(a+b)$, or as $(c—b)-a$? Of course the gross amount of the result would be the same by either method. But, as will be shown later, the rate of tax is determined by the percentage of the unearned increment to the cost price *plus such additions to it as the law allows*. If, now, the value of permanent improvements made since the last purchase be added to the cost, the percentage of increment will be materially reduced, and consequently the tax rate.

Omitting everything except the three elements immediately concerned, the following illustration may serve to bring out the point clearly. A real estate operator buys a piece of unimproved property for (*a*) 5,000 marks, erects upon it a building worth (*b*) 80,000 marks, and sells the property for (*c*) 110,000 marks. Deducting the cost of permanent improve-

ments from the selling price (110,000 marks minus 80,000 marks), the result is 30,000 marks, and further subtracting from this the original cost of the land (30,000 marks minus 5,000 marks), the gross amount of the unearned increment is 25,000 marks. If, on the other hand, the cost of permanent improvements be added to the original cost of the land (80,000 marks plus 5,000 marks), and the sum, or 85,000 marks, be subtracted from the selling price of 110,000 marks, we obtain the same result, or 25,000 marks as the gross amount of the unearned increment. In the former case, however, the percentage of unearned increment is determined by the ratio of increment to cost price of the land alone, *i. e.* of 25,000 marks to 5,000 marks, or 500%. In the latter case the percentage is determined by the ratio of increment to the cost price of the land plus permanent improvements, *i. e.* of 25,000 marks to 85,000 marks, and the result is a percentage of increment of only 29.4%. Now a 500% of increment would be taxed at the maximum rate, 30%,[1] — yielding under the illustration 7,500 marks to the public treasury. An increment of 29.4%, on the other hand, would be taxed at a rate of only 11%, yielding in the present instance only 2,750 marks.

Naturally the land-owning interest favored the latter method of computation. As originally drafted, however, the bill provided that the value of permanent improvements should be subtracted from the selling price instead of being added to the purchase price. A very large number of the more recent municipal ordinances had already introduced this method of computation. Tax reformers supported it on the ground that increments of value shown by real estate

[1] See table, p. 697.

transactions are due in the great majority of cases to the increase of pure land value, not to improvements. They pointed out, further, that the bill provided for the full, even generous, reckoning of the value of all permanent improvements at their first cost. It is one of the peculiar omissions of German unearned increment tax legislation that depreciation in the value of buildings and other improvements is not taken into account. As a consequence, improvements made early in a long period of ownership may be allowed to go to rack and ruin, and thus greatly depreciate its selling price. This, of course, might greatly reduce or even wipe out a considerable increment in the value of the naked land, with the consequence that the seller would escape the tax in part or altogether. To allow the land-owner thus to profit by depreciation while at the same time he added the full original value of improvements to the purchase price of his property was energetically protested against by the friends of the new tax. After a bitter fight, however, the land-owning interests succeeded in having the bill amended exactly as they wished,— the most important by far of a long series of concessions which they obtained from the Reichstag. Under the imperial law, therefore, cost of permanent improvements is added to, or rather merged with, the purchase price in calculating the percentage of unearned increment. As a consequence such percentages will be greatly reduced, and with them the tax rates. By this one change the annual revenue from the new tax will be reduced by many millions of marks.

To return to the three fundamental elements of unearned increment taxation, namely, (*a*) the price paid for the property at the last purchase, (*b*) cost of permanent improvements since made, and (*c*) the sell-

ing price. Additions allowed to the first two of these items, and deductions made from the third will, of course, reduce the amount of unearned increment. This much is obvious, but unless it is constantly kept in mind the bearing of the numerous and intricate qualifications which must now be dealt with will be utterly lost.

(*a*) *The Last Price paid for the Property.* In determining this item the price at which the property was purchased at its last transfer serves as a basis. Four per cent of this amount is added to cover the original costs of acquisition, including fees connected therewith. If it can be shown that the costs of acquiring the property were really higher, the larger amount will be added to the purchase price instead of the regular allowance of 4%.

The new imperial tax is frankly retroactive — indeed it is retroactive in three distinct ways. First, it reaches back to December 31, 1910,[1] three months prior to the date the law went into effect, to cover sales of real estate during this period. This was done, of course, to get hold of fictitious real estate transactions undertaken with the purpose of evasion. As it had been certain for a long time previous that the Empire intended to impose a tax of this character and as many cities were considering similar action it is believed that sales of this sort running into millions of marks have occurred throughout the country.

A second retroactive provision in the law is designed to get hold of other methods of evasion practised in the recent past and to prevent their employment in the future. All over Germany, whenever it has seemed

[1] In the first form of the bill this date was fixed at April 1, 1910, several days preceding the introduction of the bill into the Reichstag by the chancellor. Tho the date was subsequently changed there never was a time during the consideration of the bill in the Reichstag when evasion by this method appeared possible.

likely that a city was about to enact an unearned increment tax, large owners of real estate have hastened to create corporations and have then transferred their property to these corporations at prices sufficiently high to anticipate any increase in its value for years to come. By this ingenious device they hoped not only to avoid any immediate imposition of the tax, but also to escape it permanently, since they could thereafter virtually transfer ownership by selling corporate stock instead of selling the property outright. During the first five months of 1907, when Berlin was considering an unearned increment tax ordinance, one hundred and seventy-four limited liability companies of this character were organized in that city. Rings were also formed in old established real estate corporations to buy up and then sell to the corporation desirable tracts which, it was thought, were thus brought under legal shelter from the impending tax. The imperial law reaches back six years, that is, to March 31, 1905, to cover such transactions. Instead of accepting the price at which the land was turned into the corporation it provides for an independent appraisal of its real value. The unearned increment is to be calculated from the value so determined, provided this value is 25% less than the price paid by the corporation and the circumstances show that an evasion of part of the tax was intended. Another section of the law places stock transactions of real estate corporations on the same basis with reference to the tax as direct transactions in real estate. By these provisions of the new law millions of marks of real estate values which owners had thought safely concealed will be brought under contribution.

Thirdly, and most important of its retroactive features, the new law reaches back for its basis in com-

puting unearned increment to the last sale of the property (with exceptions to be stated later) even if that sale occurred before the enactment of the present law. Moreover, it reaches much further back than most of the municipal ordinances already in existence. Cologne, for example, leaves all unearned increment which accrued prior to the passage of its ordinance entirely free; Magdeburg taxes increment accruing since April 1, 1904; Duisburg, since January 1, 1900; Berlin and Breslau, since January 1, 1895; and Hanover, since April 1, 1885. Dortmund goes back to the last exchange, but if this occurred prior to January 1, 1860, a fixed tariff of land values is assumed instead. Hamburg goes back to the last sale without limit of time.

The corresponding retroactive feature of the imperial law is not so severe as in some of the municipal ordinances, but still it is fairly stringent. In computing unearned increment the price paid at the last sale shall be taken as the cost basis or purchase price, if this sale occurred since January 1, 1885. If it occurred prior to this date, an appraised valuation of the property as it stood on January 1, 1885, is assumed in calculating unearned increment, unless the present seller can show that he or his predecessors actually paid more for the property, in which case the latter sum is taken as cost basis instead of the appraised valuation. The first of January, 1885, will remain basic in this way until 1925, when the tax gatherer will be reaching back a full forty years in computing increment on properties which are changing hands for the first time since 1885. After 1925, when properties are sold that have not changed hands for more than forty years, an appraised valuation of the property as it stood forty years before the date of sale will

be taken as the cost basis in computing unearned increment, unless the seller can show that he or his predecessors actually paid more than the appraised valuation, in which case the higher actual purchase price will be used as a basis.

Various criticisms have been made against this complicated arrangement. Even for the present it will not be easy to fix a satisfactory estimate of the values of many pieces of property as they stood in 1885. Between tax payers and tax officials frequent differences of opinion are sure to occur and be taken to the courts. To reach back a full forty years in making such estimates will be an even more ticklish and contentious matter. After 1925, moreover, the tax officials will no longer be looking back to a single fixed date but to a series of dates forty years earlier than each transaction involving this application of the rule and advancing constantly as time goes on. From the point of view of tax technique, therefore, this provision of the law is likely to prove troublesome.

Gratified as they were at the determination of the imperial authorities to make the law strongly retroactive, many tax reformers nevertheless objected to the cumbrous form given this part of the measure. Some of them boldly proposed to fix the basic date permanently at January 1, 1871. The Empire was founded about that time and special records of land values which could be referred to were made then. Moreover, even in the cities real estate values had not then begun to make the mighty strides which have so increased rents, and in the end called forth the whole movement for the taxation of unearned increment. Between 1871 and 1885, on the other hand, Germany's economic development was very rapid, there was much wild speculation, and in the larger cities, at least,

real estate values advanced considerably. By limiting the retroactive effect of the law to the year 1885 much of this increment will escape taxation. On the other hand, the real estate interests in the Reichstag of course bitterly fought both the temporary limit to 1885 and the later permanent limit of forty years. While the dates were finally fixed as stated, important concessions, to be noted later, were secured by the land-owning interests in other parts of the law.

(*b*) *Cost of Permanent Improvements.* It will be recalled that under the imperial law the cost of permanent improvements is to be added to, or rather merged in, the purchase price in computing unearned increment. What then are to be included under permanent improvements?

Theoretically expenditures for repairs and generally for the purpose of maintaining a property in its original condition are not so included. Depreciation, as we have seen, is not considered in any way. But sums spent since the last purchase of the property, or since the date at which its value was fixed under the terms of the law, for building, rebuilding, and for other special permanent improvements, form the basis of this item. Five per cent of the total amount so expended is added to cover the owner's trouble in directing the making of the improvements. If the owner is engaged in the building industry and has himself undertaken the making of the improvements 15 instead of 5% may be added to their actual cost on this score.

Next to be added to this general item are the costs of street improvements, sewerage, and other similar public improvements to which the property owner contributed, plus 4% annually thereon from the time such contributions were made until the property is

sold, not, however, to exceed a period of fifteen years.

Finally, an extremely complicated item is added, based both upon the original purchase price and the permanent improvements just considered. If taken together they show the property to have cost less than 100 marks an are ($964 per acre), or three times as much in the case of vineyard land, an amount equal to 2½% per annum from the time of purchase in the case of purchase price, and from the time of making improvements in their case, shall be added. In the case of land which on the same basis represents a higher value per are, there shall be added on such excess, if unimproved, 2% per annum; if improved, 1½%. If the period of ownership has been less than five years and the land has remained unimproved, these additions are reduced one half.

This extremely awkward double-barrelled provision of the law is designed to accomplish various ends. In the first place it favors agricultural land with a high percentage, because increase in the value of such land in Germany is frequently due largely to the unremitting labor of peasant owners. Particularly is this true of vineyard lands; hence the special clause bringing them under the 2½% rate up to a value of 300 marks per are ($2,892 per acre). The lower additional rates allowed on the value of land and improvements above 100 marks per are are designed to let the tax burden fall more heavily on real estate that has ceased to be used agriculturally and is either built upon or ripe for such uses. Last, this whole provision is designed to meet objections urged against the strong retroactive feature of the law. During a period ranging from twenty-six up to a maximum of forty years the monetary standard of value can de-

cline very materially in purchasing power. Relative to a higher general range of prices a large apparent increase in land values may be real only in part or even totally deceptive. Without some safeguard, therefore, sellers of real property who for a long time owned and occupied it ran the risk of being heavily taxed on an alleged increment which, considering a higher general range of prices, really did not exist. Hence the allowance of a small steady annual rate of interest upon purchase price and improvement costs.

While admitting the justice of this reasoning in general, tax reformers objected to the actual arrangement made in the law on the ground that it unduly favored the "millionaire peasant" type, familiar in the neighborhood of large German cities. It would be no less favorable, they complained, to that class of land speculators whose practice it is to acquire at little more than agricultural prices large tracts some distance out from the edge of cities and then to hold them for long periods until they are demanded at high prices for building purposes. So far as account is taken in this paragraph of changes in the purchasing power of money it would also appear that while the state has sought to protect the property owner against the consequences of a depreciating standard of value and higher general prices, it has not in any way safeguarded itself against the consequences of an appreciating standard of value and lower general prices. During periods of the latter character unearned increment taxes are not likely to be very productive.

(*c*) *The Selling Price.* From the selling price, — the third element of importance in computing unearned increment, — are to be deducted the costs of the transaction incurred by the seller, including fees. Further, if the seller can show that he failed to realize an an-

nual income of 3% on the cost of the property plus improvements, the amount by which he fell short of this income for any period not exceeding fifteen consecutive years may be deducted from the selling price. The enormous advantage which this provision gives to the speculator who holds unimproved land for long periods is apparent. In connection with the additions allowed to the purchase price it enables him to escape taxation altogether for at least fifteen years unless his increment grows at a rate faster than 4% or 5% a year.

Having thus defined the elements upon which the determination of the unearned increment depends, the law next fixes the rates of taxation upon a progressive scale. The rates are based on the percentage of unearned increment to the purchase price of the property plus the cost of permanent improvements and the various additions allowed thereto. Beginning at an increase of value of 10% or less, the tax rate is fixed at 10% of the increment. The tax rate increases 1% for each additional 20% of increment until it reaches a rate of 19% on increments of from 170 to 190%. Beyond this point the tax rate increases 1% for each 10% additional of increase of value until it reaches a maximum rate of 30%, which is imposed on all gains of 290% and over. However, the taxes levied under these rates are subject to a deduction of 1% of their amount for each completed year since the last sale of the property. If the last sale occurred prior to January 1, 1900, this reduction shall be computed at the rate of 1½% annually for the period up to January 1, 1911. In order to present a clear picture of the tax rate provisions of the law the following table has been prepared. It shows the basic tax rate for the

various percentages of unearned increment, and also the rates as they will be reduced, under the provision just mentioned, after ten, twenty, and thirty years of possession.

TABLE SHOWING RATE OF TAX ACCORDING TO PERCENTAGE OF UNEARNED INCREMENT AND LENGTH OF POSSESSION UP TO 30 YEARS[1]

Percentage of increase of value to cost price plus value of permanent improvements, etc.	Tax rate	Tax rate after 10 years of ownership	Tax rate after 20 years of ownership	Tax rate after 30 years of ownership
10% and less	10%	9.00%	8.00%	7.00 %
over 10% and up to 30%	11	9.90	8.80	7.70
" 30 " " 50	12	10.80	9.60	8.40
" 50 " " 70	13	11.70	10.40	9.10
" 70 " " 90	14	12.60	11.20	9.80
" 90 " " 110	15	13.50	12.00	10.50
" 110 " " 130	16	14.40	12.80	11.20
" 130 " " 150	17	15.30	13.60	11.90
" 150 " " 170	18	16.20	14.40	12.60
" 170 " " 190	19	17.10	15.20	13.30
" 190 " " 200	20	18.00	16.00	14.00
" 200 " " 210	21	18.90	16.80	14.70
" 210 " " 220	22	19.80	17.60	15.40
" 220 " " 230	23	20.70	18.40	16.10
" 230 " " 240	24	21.60	19.20	16.80
" 240 " " 250	25	22.50	20.00	17.50
" 250 " " 260	26	23.40	20.80	18.20
" 260 " " 270	27	24.30	21.60	18.90
" 270 " " 280	28	25.20	22.40	19.60
" 280 " " 290	29	26.10	23.20	20.30
" 290	30	27.00	24.00	21.00

Comparing imperial rates with those fixed in municipal ordinances, it should first be stated that the new law does not exempt low percentages of unearned in-

[1] Adapted from Justizrat Hermann Kausen's Die Reichswertzuwachssteuer, p. 98, with changes made to conform to the final text of the act of February 14, 1911. Actually the deduction of 1% per annum is to be made from the gross amount of tax due under the basic rate, but the results would be exactly the same under a table such as the above.

crement taxation. In most of the local enactments increases of value of less than 10% were left free. If full value is admitted on all permanent improvements, as is certainly the case in the imperial law, it is hard to see why such exemptions should be allowed. To this position the government adhered in spite of the opposition of the landed interests.

As regards the scale of tax rates, ranging in the imperial law from 10 to 30%, the following list of the extremes in number of the more important local ordinances may be of interest.

City	Tax Rate Lowest	Tax Rate Highest
Hamburg	1%	12½%
Dortmund	3	15
Essen	3	15
Frankfurt-am-Main	2	25
Berlin	5	20
Breslau	6	25
Cologne	10	25

Under municipal tax ordinances, however, the high rate of 25% is, as a rule, imposed upon unearned increments of about 150%, whereas under the imperial law a 25% rate is not reached until the increment amounts to 240 %. Moreover, owing to the addition of the value of permanent improvements to the purchase price, the higher percentages of unearned increment will seldom be attained under the imperial law. Finally, experience in various cities has shown that the highest percentages of unearned increment emerge only on long term property holdings. The reductions of the tax by 1% per annum will save such large percentages of increment from the higher rates. Thus a case of unearned increment amounting to 290%, accruing after thirty years' ownership, will pay at the rate of 21%

instead of at the maximum rate of 30% first fixed in the law.

By way of summary of the various provisions of the new law regarding computation of unearned increment and tax rates, a typical example may be of service.[1] Let us assume that on April 3, 1905, a piece of unimproved property with an area of 1.63 ares was bought for 3,939 marks. In 1906, a dwelling house was erected upon it, and the city made street improvements upon which the owner had to pay an assessment. The property was sold, February 5, 1911, for 35,000 marks. Omitting minor details, the computation of unearned increment would be as follows: Add to the purchase price of 3,939 marks (1) 4% to cover the costs of purchase including fees, or 158 marks; (2) the cost of the dwelling erected in 1906, which was, say, 20,000 marks; (3) 5% of the cost of this building to repay the owner for his work in directing the making of this improvement, or 1,000 marks; (4) the assessment of 1,000 marks paid by the owner for street improvements made by the city in the same year; (5) 4% thereon for the four full years elapsing between 1906 and the date of sale, or 160 marks; (6) the allowance of 2½% on the value of the property up to 100 marks per are for five full years amounting to 20 marks; (7) the allowance of 2% on the value in excess of this amount per are as long as the property remained unimproved, or one year, which makes 79 marks;[2] (8) the allowance of 1½% on this excess plus the expenditures for the dwelling (20,000 marks) and directing its erection (1,000 marks), from the time

[1] Adapted from Boldt, p. 156.

[2] From the purchase price, 3,939 marks, increased by costs of acquisition figured at 4%, or 158 marks, is subtracted 163 marks, the value of 1.63 ares at 100 marks per are, leaving 3,934 marks on which this allowance of 2% for one year is made.

this improvement was made until date of sale, or four years, making 1,496 marks.[1] The sum of these various items, or 27,852 marks, is the total cost of the property as determined under the imperial law. Next subtract from the selling price of 35,000 marks, the amount by which the owner fell short of a 3% income on his investment during the year the property remained unimproved, or 123 marks,[2] and the result, 34,877 marks, is the selling price of the property as determined under the imperial law. Legal selling price (34,877 marks), minus legal cost (27,852 marks), gives a gross unearned increment of 7,025 marks. The ratio of this amount to legal cost (7,025 to 27,852 marks) shows the percentage of increment to be 25.2; and, accordingly, the tax rate is 11%. Eleven per cent of the 7,025 marks, figured as the gross amount of the unearned increment, is 772.75 marks, but this must be reduced by 38.65 marks, which is 1% of the tax for the term of five years during which the property was in possession of the present seller. With this final deduction, therefore, the amount of tax actually to be collected on the transaction is 734.10 marks.

Next in interest to the provisions regarding the computation of unearned increment and tax rates, was the question of the division of the income from the tax among the Empire, the states, and the cities or other local government bodies. It will be recalled that the municipalities of Germany began the development of this form of taxation several years before the Empire entered the field. Strong pressure put upon them

[1] To the 3,934 marks figured in the preceding note is added the cost of building the dwelling plus the 5% allowed the landlord for directing the making of this improvement, and the sum, or 24,934 marks, is the basis for this allowance at the rate of 1½% for four years.

[2] In this case, also, to the actual purchase price of 3,939 marks is added 4%, or 158 marks, to cover the costs of acquisition including fees.

from above forced them to this solution of their financial difficulties.[1] Naturally, therefore, they protested on every possible ground against any invasion of what they had come to look upon as their own bailiwick.[2] Legally and logically, however, the position of the cities was open to attack. Against the unquestioned constitutional right of the Empire to enter upon taxation of this character the cities could urge only their moral right based upon prescription. As a matter of logic, it was impossible for the cities to deny the right of the Empire, and, for that matter, the right of the state and other local government bodies as well, to participate in the revenue derived from the taxation of unearned increment. The use of the term "unearned" in this connection is subject to qualification. Primarily, of course, it means unearned by the landlord. We have already seen what pains were taken in the law to assure owners the benefit of every possible contribution made by them in the form either of investments or of labor. If anything remained after these deductions were fully and fairly made it was clearly not due to the exertions of the landlord, and, hence, so far as he was concerned, deserved to be called unearned. Now the cities declared their intention of taking by taxation a portion of such residual amounts on the ground that they were due to a considerable extent to the beneficent operations of municipal government. In other words part of the increment *unearned* by the landlord was clearly *earned* by the city. On exactly the same grounds, however, it cannot be denied that other parts of the increment unearned by the landlord were due

[1] See article by the present writer on Berlin's Tax Problem in the Political Science Quarterly, vol. xx, p. 666 (Dec., 1905); also Yale Review, vol. xvi, p. 242 (Nov., 1907).

[2] In addition to the general references cited in the note, p. 682, and especially the minutes of the Hanoverian Städtetag, consult the Mitteilungen d. Zentralstelle d. deutschen Städtetags, Band ii, Nos. 19–20, p. 489.

to the beneficent operations of imperial, state, and local governments other than municipal. In the case of Berlin and the capital cities of the various states, of military and naval stations, of cities in which great public institutions with their administrative forces were located, the contributions of imperial and state governments to local land values were direct and undeniably very great. And even in other places the work of imperial and state governments in maintaining peace and order, furthering commerce abroad and at home, fostering manufacturing, agriculture, and other industries, and so on, must have contributed materially to the growth of land values.

Nearly all the representatives of city interests conceded the general validity of this argument. Unfortunately, it furnishes no quantitative basis for a just and universally applicable division of the revenue arising from a general unearned increment tax.

Indeed it is clear that the division of the increment unearned by the landlord into quotas assumed to be earned by imperial, state, and local governments respectively cannot justly be accomplished upon the same basis for all localities. If, nevertheless, some uniform rule had to be adopted, the advocates of city interests were quite certain that it should apportion by far the larger share of the revenue to the municipal governments. City governments, they held, were closer to the local property owner, and the services of such governments in providing or supervising public utilities, safeguarding public health, furnishing facilities for public amusements, and so on, contributed in the main much more directly and materially to the growth of land values than the services of state or imperial governments. A division of the revenue, giving two thirds to the cities and one third to the Empire, was

accepted as fair by some of the advocates of city interests.[1]

Apart from the vital point as to their quota under the imperial law the interest of the cities was identical with that of the Empire, and opposed to that of the land-owning class. In other words, as partners in a common tax undertaking, both city and Empire desired as strong and productive a measure as possible. One other point, however, made by the advocates of municipal interests against the proposal of an imperial tax is of sufficient importance to deserve notice,—namely, that owing to the wide variations of conditions in different localities, and particularly as between city and country, no unearned increment tax legislation applicable uniformly over the Empire could be just. In proof of this assertion attention was called to the wide and numerous differences shown by a comparison between the various local ordinances enacted prior to 1911. It is impossible to deny a certain validity to this argument, and future amendments to the imperial law may have to take it into account. The differences discoverable in the earlier ordinances, however, are said to be due largely to the varying degrees of strength and tenacity with which the landlord interest fought them in municipal councils.

In favor of an imperial unearned increment law various arguments besides the general points already noted were made. One was that local property owners were often strong enough to cause the rejection or emasculation of unearned increment tax ordinances in city councils. Imperial legislation and administration, it was hoped, would be more free from this influence.

[1] See p. 150 of Stadtrat Boldt's earlier work on Die Wertzuwachssteuer, Dortmund, 1909. This suggestion assumed that the cities were to do the work of assessing and collecting the tax, and thus left the states out of account.

At one stroke unearned increment taxation would be introduced by an act of the Reichstag over the whole of the German Empire. While the latter point was well taken and of unquestioned weight, we have already seen that the landlord interest proved itself far from lacking in influence in the Imperial Diet. Finally the advocates of legislation by the Empire urged that the tax rates could readily be made high enough to insure those cities which already had ordinances of their own incomes as large as they were already enjoying from this source.

Let us turn from the arguments on this point to actual adjustment of imperial with local interests made by the law of February 14, 1911. The lion's share of the income from the new tax, 50% altogether, goes to the Empire; 10% of the amounts collected in their respective territories goes to the state governments as reimbursement for the costs of administering the law; and the remaining 40% is left to the municipalities or other local government corporations. Further, the state governments are given power to deal on their own account with this last 40%. The municipalities may, therefore, find themselves forced to stand for further reductions imposed upon them by the various state diets for the benefit of the counties (*Kreise*), provinces, or of the state itself. Some consolation may be derived by the cities from the fact that, with the consent of the supervisory authorities of the state, they may add local levies on their own account to the imperial tax rates, but these supplements (*Zuschläge*) will not be allowed to exceed in revenue producing power the amount due the city under the imperial law, *i.e.* 40% of the total amount collected. Further, the imperial and local rates taken together may in no case take more than 30% of the

unearned increment. With these limitations additional local rates may be variously fixed according to the different kinds of property involved and the length of the period during which it has been in the possession of the seller. Some room for local adjustment is thus allowed even under the terms of the imperial law. Indeed one of the arguments in defence of the low scale of tax rates provided by the imperial law was that the rates must be so fixed in order that cities desiring it would have room to add *Zuschläge* of considerable size on their own account. It is believed, however, that real estate interests will make it extremely hard for city councils to proceed far in this direction.

One further concession is made to those communities which, prior to April 1, 1909, passed an unearned increment tax ordinance to take effect before January 1, 1911, or in which prior to the latter date an ordinance had gone into operation with retroactive effect back to April 1, 1909. In case such communities can show that their average yearly income under their ordinances was in excess of the portion allotted to them under the imperial law, the difference is to be paid them out of the share of the Empire until April 1, 1915. Or instead of this a community, with the consent of the imperial chancellor, may retain its existing ordinance for the same period, paying over to the Empire, however, all income in excess of the average which it received from its own tax prior to April 1, 1911. It is left to the imperial federal council (*Bundesrat*), by the way, to determine what this average has been in given cases. So far no general method of computing such averages has been promulgated. Owing to the great diversity of municipal ordinances on the subject it will be a matter of great difficulty to do so, and

any solution is certain to cause friction between city and imperial officials. For the time being, therefore, the Bundesrat has decided to avoid general rules and to deal only with individual cases as they come up.

By these transition provisions of the new law those cities which anticipated the Empire in unearned increment taxation are guaranteed against any diminution of their income from this source during a period of four years. After 1915, however, all local legislation will be permanently superseded by the imperial law administered uniformly throughout the whole country. So far as the continuation of local ordinances is concerned a recent announcement by the imperial chancellor is of great interest.[1] For the present he has determined to grant permission to retain existing ordinances for periods of one year only. This will enable municipalities having their own ordinances to study results obtained under the imperial law in other cities. If the latter prove satisfactory, the uniformity contemplated by the law may be attained, with the full consent of the interested cities, earlier than 1915.

From an American point of view those aspects of the new imperial law which we have just been considering are interesting. They show the federal government of Germany reaching down to abrogate or rearrange in thorogoing fashion a detailed part of the tax systems of many municipalities and local governments scattered through its separate states. Under our constitutional system such interference by Washington in affairs of local taxation is, of course, quite out of the question.

In accordance with the usual German practice the actual administration of the new unearned increment tax is turned over to the various state govern-

[1] Mitteilungen d. Zentralstelle d. deutschen Städtetags, 10, Juni, 1911, p. 137.

ments, subject, however, to the supervision of the imperial plenipotentiaries for customs and taxes. Ample provision is made in the law for the hearing and decision of all complaints made by tax payers. Fines are provided for various offences. In the opinion of the German Municipal Conference the administrative provisions of the law are so unduly complicated that they will greatly increase the amount of work and the costs necessary to collect the tax, and will lead to much litigation.[1]

Experience has shown that no prophecies are more apt to be misleading than those regarding the income to be yielded by an unearned increment tax. All the factors affecting the real estate market, including the perturbations and evasions caused by the impending tax itself, and all the complicated legal paraphernalia for the computation of unearned increment, play a part in the final result. Over a very wide field, such as that covered by the new imperial law, however, fluctuations in the many local real estate markets will perhaps tend to compensate each other. As to the probable income which the new tax may be expected to yield all cautious prophets are silent. Only one line of speculation may be suggested regarding this matter. In 1909, a stamp tax was placed in the imperial budget with the understanding that the unearned increment tax law should be worked out later and substituted for it. Now to enable the government to dispense with this stamp tax an annual income of at least 20,000,000 marks from the unearned increment tax would be necessary. And as the empire was to receive only half of the income from such a tax, a total

[1] Antrag d. Vorstandes d. deutschen Städtetags betr. Reichszuwachssteuer v. 1, Nov., 1910. Mitteilungen d. Zentralstelle d. deutschen Städtetags v. 12, Dez., 1910, p. 489.

revenue of 40,000,000 marks ($9,528,400.00) was to this extent indicated. Whether or not the government's original bill would have produced so much is highly problematical. But it is absolutely certain that the amendments made in the Reichstag enormously reduced the revenue producing power of the act. That the government shares this view is proved by the later action of the Reichstag which, upon the urgent representations of the imperial secretary of the treasury, postponed the substitution of the unearned increment for the stamp tax from 1911 to 1914.

In its main outlines, therefore, the new imperial law may be described as fairly strong in its retroactive features and weak elsewhere. Financially its present importance is very slight. In its extreme complexity the law is a true product of the German intellect. As experience is obtained in its administration and as decisions are handed down by the courts regarding its interpretation, the difficulties arising from this course may be greatly reduced. Still it remains a very vital question, particularly from the point of view of more democratic countries which may wish to follow Germany's example, as to how far the complexity of unearned increment taxation is inherent in the nature of the subject itself. As the law stands it is not satisfactory to the empire from the point of view of productivity, nor to the cities as regards their share of the income, nor to the real estate interests which, of course, are fundamentally opposed to all taxation of this sort. Between the three it is certain to be considerably amended soon after its effects become manifest. German land tax reformers are inclined to lament that the new law has "no teeth in it." A fairer statement would be that it has simply cut its milk teeth and may be expected to

develop mature molars and incisors later. Taking all things into consideration, however, the new imperial law is one of the largest and most significant practical applications of the single tax idea that has ever been attempted.

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TENANCY IN THE NORTH CENTRAL STATES

SUMMARY

The tenancy problem one of many phases, 710. — Characterization of the North Central States, 712. — Relation of tenancy to value of land, by states, 714. — The same by groups of counties, 717. — Influenced by size of farms, 719. — By type of farming, 720. — Tenancy and the corn belt, 723. — Extensive and intensive farming, 724. — Summary, 728.

FROM the standpoint of tenancy the United States is far too large and too varied to be treated as a unit. Any one of the recognized geographical divisions is so large and varied that even a statistical treatment of tenancy for one section is sure to leave out of account many local and minor influences which taken together may be of primary importance. It would be irrational to speak of tenancy in the abstract and include within the scope of the term the twenty-acre cotton farm of Georgia and the thousand-acre farm of North Dakota. In the former case the tenant is usually under the eye and the domination of the owner of the land; is in debt for equipment and dependent for subsistence; is in charge of one thousand dollars worth of property; and is himself the owner of but one or two hundred dollars worth. In the latter case the tenant is frequently as independent as the owner of the land; selects his crops to be planted; plans his field operations; owns his live stock and implements, free from incumbrance; buys and sells entirely at will; owns property worth from one to several thousand dollars; and is in charge of a farm worth perhaps twenty-five thousand dollars. Such is the contrast from north to south. Tho the contrast from east to

west is less pronounced, it is by no means negligible. In the East the farm is small by comparison; it no longer responds to cultivation alone; is not so well adapted to the use of draft animals and even less to the use of mechanical power; diversified farming, or highly specialized intensive farming, is the only types which can succeed. In the far West there is a great expanse of country, and the greatest diversity of soil and climate; a range of crops from the durum wheat and alfalfa of the plains to the irrigated gardens of the valleys. There is land worn out from the standpoint of present methods of farming, and land so rich that those farming it believe it will last forever. There are farms (so-called) of a quarter of a million acres, worth a dollar an acre; and farms of three acres worth three thousand dollars an acre. Moreover, in the western country many farms are just being taken from the government in the form of homestead, Carey Act entries, desert claims, and the like; great numbers are being sold on every conceivable plan of coöperative development and deferred payment, these latter being orchard enterprises as a rule. It is apparent that these conditions are not comparable either with the South, the East, or the middle West. It is no less apparent that the different units here are not comparable one with another. The conditions are so unstable and uncertain that it is difficult to describe the present situation, let alone discover the trend events are taking. It may, however, be noted by way of further introduction that there is a comparatively low percentage of tenancy in the East and in the far West; the highest percentage in the South; and, in the North, a high percentage in the middle West, or, in terms of the census, the North Central division of states.

The North Central division is a large block of country. It comprises twelve states, the smallest being Indiana, the largest, Minnesota. Taken together they have an area of over three-quarters of a million square miles, or 22 per cent of the area of continental United States. They have a population of almost thirty millions, or about a third of the total. From the agricultural point of view this section has striking features. Here are over one-third of all the farms and farm land of the country, valued at more than the remaining two-thirds. In connection with these farms are found nearly half of the cattle, 45 per cent of the horses, and, in value, almost half of the agricultural implements and machinery. Within this section there is grown two-thirds of the wheat crop of the whole country. Also seven-tenths of the corn crop, eight-tenths of the oats crop, and six-tenths of the hay and forage crop are grown in this division. In short, the great bulk of the bread stuffs and the meat, and no inconsiderable part of the dairy products and the fruit, come from these states.

The North Central division is often spoken of as a section uniform in character and quality; but such is far from the case. For example, the price of land in Illinois is reported at $94.90 per acre, and in North Dakota at $25.70, the other ten states ranging between these extremes. Even within a state there are great variations. For example, in Illinois and Iowa there is much land selling for more than $200 an acre, while at the same time a whole county in Illinois is reported at $17.00 per acre for land and buildings. Nebraska has land selling for $150 in the eastern part of the state, while in the western part there are abundant examples of the economist's no-rent land. Moreover, both in Ohio and in North Dakota there is land

which has not been farmed at all. The topography, the nature of the soil, and the length of time it has been cultivated all help to determine the size of the farm, which in Ohio averages 89 acres, and in North Dakota 382 acres. The density of population is correspondingly unlike, ranging from 117 per square mile in Ohio down to 7.6 in South Dakota, while in parts of Ohio the density is several times the average for the state and in South Dakota it falls below one per square mile for some counties.

There is great diversity in the character of the soil and its primary condition. The greatest prairies of North America were in these states, and some of the best of the pine forests and extensive hardwood forests. The swamps are great in extent in the northern part, tho irrigation is essential to good crops in the western part. As a result the character of the farming varies very greatly. Certain states may be characterized by the leading type of agriculture within them. Ohio has long been known as a sheep-growing state, Illinois as a cereal-producing state, Wisconsin as a dairy state, Iowa as a cattle- and swine-producing state. Minnesota and the two Dakotas are known far and wide as the producers of wheat, barley, and flax; Michigan is noted for fruit, and sugar beets; and so through the list. It is not necessary, however, to go from one state to another to find changing conditions. There is much dissimilarity within any given state, and consequent variety in the agriculture. In Wisconsin, for example, there is the regular grain growing, — corn, oats, and barley; there are cattle for beef and for the dairy, there are sheep and swine; but in addition to these more ordinary kinds of farming, we find the tobacco farms, truck farms, and the so-called clover-seed farms, besides

land still to be made into farms. In Illinois the crop range is a wide one. Some parts of the state grow as much corn per square mile as is grown anywhere; some counties are outside the main corn belt. In parts of the state clover and timothy are found on almost every farm; in other parts these crops are almost unknown.

With all these conditions varying so widely it would be strange were tenancy a constant factor, and it is not. Indeed, it would hardly be possible for it to run through a wider range, since it now varies by individual counties from less than one per cent of all farms in some to eighty-three per cent in others. Over two-fifths of all land of the United States rented to tenant farmers is found in this group of twelve states, and these farms have a value greater than that of the other three-fifths of such farms.

VALUE OF LAND AND PER CENT OF TENANCY

	Value per acre	Per cent of tenancy	Rank in value	Rank in tenancy
Illinois	94.90	41.4	1	1
Iowa	83.00	37.8	2	3
Indiana	62.00	30.0	3	5
Ohio	53.30	28.4	4	7
Wisconsin	43.30	13.9	5	12
Nebraska	41.84	38.2	6	2
Missouri	41.76	29.9	7	6
Minnesota	37.00	21.0	8	9
Kansas	35.50	36.8	9	4
South Dakota	34.70	24.6	10	8
Michigan	32.00	16.0	11	10
North Dakota	25.70	14.3	12	11

The first fact to be noticed is the close parallelism between the value of land and the proportion of tenancy. The above table shows the value of land per acre,

and the per cent of tenancy, as reported in the Thirteenth Census, together with the rank in each.

It will be seen that the ranks in value and in tenancy correspond closely in about two-thirds of the states and differ materially in the other instances. Must it be inferred then that the case is a mere coincidence? Before dismissing it as such let us drop three states from the list and re-rank the remaining nine. Dropping Wisconsin, Kansas, and Nebraska, the result is that, in value and tenancy respectively, the ranking is as follows: —

RANK IN VALUE AND IN TENANCY, SELECTED STATES

	Rank in value	Rank in tenancy
Illinois	1	1
Iowa	2	2
Indiana	3	3
Ohio	4	5
Missouri	5	4
Minnesota	6	7
South Dakota	7	6
Michigan	8	8
North Dakota	9	9

Surely, if this be a mere coincidence, it is a very striking one. But why drop Wisconsin, Kansas, and Nebraska? In partial answer it may be said that Wisconsin has always been remarkably low in tenancy, from causes which will be discussed later, and that Kansas and Nebraska have come up rapidly in tenancy, due to the unusual adaptability of their lands to extensive farming, and to the further fact that in them no considerable amount of available unoccupied land is left, to be taken by homeseekers and so for a time balance the tendency toward the purchase of land for speculation. Land held for speculation is

always for rent and the time has arrived in these states when tenants are plentiful enough to take the most of it. On the other hand, much land in Minnesota and the Dakotas goes begging for occupants; it must be worked by its owner or not at all, hence a very low rate of tenancy in the newer sections of these states, which holds the general average of tenancy down, in spite of a high rate in the older sections where speculators and tenants are both plentiful. It is in the older states that conditions are more uniform and apparently more stable, and it is in these states that values and tenancy seem unmistakably to be travelling the same road, and at a somewhat similar rate of speed.

The trend of tenancy for the group during the past thirty years is shown in the table: —

PER CENT OF TENANCY, 1880–1910

	1910	1900	1890	1880
Illinois	41.4	39.3	34.0	31.4
Iowa	37.8	34.9	28.1	23.8
Indiana	30.0	28.6	25.4	23.7
Ohio	28.4	27.5	22.9	19.3
Wisconsin	13.9	13.5	11.4	9.1
Nebraska	38.2	36.9	24.7	18.0
Missouri	29.9	30.5	26.8	27.3
Minnesota	21.0	17.3	12.9	9.2
Kansas	36.8	35.2	28.2	16.3
South Dakota	24.6	21.8	13.2	3.9[1]
Michigan	16.0	15.9	14.0	10.0
North Dakota	14.3	8.5	6.9	3.9[1]

Throughout this period the relation between value of land and the rate of tenancy has been substantially as shown for 1910 above. It will be noticed that the slight decline in tenancy for Missouri during the past

[1] For Dakota Territory.

ten years is the only instance of the kind occurring in the group during the thirty years.

The close relationship between value of land and rate of tenancy is even more strikingly brought out by a comparison of groups of counties within a state than in the comparison of one state with another. Within the state of Illinois, in a block of fourteen counties where farms are reported at $150 or more per acre, there was ten years ago 50.6 per cent of tenancy. In these counties at the present census there is 54.7 per cent of tenancy. Not only is the amount of tenancy high, but it is increasing rapidly, more rapidly than in other parts of the state. In another block of nineteen counties, in which the value of farms is less than $50 per acre, in 1900 there was 27.8 per cent of tenancy, while now there is 29.7 per cent. This is but about two-thirds the proportion of tenancy for the whole state, and the rate of increase is below that for the state. The same general conditions prevail in Ohio, which we may view from a little different standpoint so as to include all farms of the state. It is found that in thirty counties in the eastern and southern parts, having an average valuation for farms of $60, or less, per acre, the per cent of tenancy ten years ago was 19.5; at present it is 20.8; not a great change for the period, and a low proportion in each case. In the remaining two-thirds of the state, the per cent of tenancy in 1900 was 30.9, while in 1910 it was 33 per cent. It is just here, roughly the middle of Ohio from north to south, that we find the pronounced break in the tendency of farms to slip out of the hands of the owners and into the possession of tenants, for from this line to the east tenancy declines, while to the west, at least to the Rocky Mountains, ownership declines.

The same relationship between values and tenancy may be seen in Missouri, where in sixteen counties in the northwestern part of the state with values of $60 and over per acre there is 33.5 per cent of tenancy. This is well above the general average for the state and is slightly above the per cent for the same counties ten years ago. In the northeastern part of the state a like number of counties with values below $60 stood at 27.0 per cent in tenancy in 1900, but fell to 24.6 per cent by 1910. In Indiana the nineteen counties in which farms are worth, per acre, $100 and up have 36 per cent of tenancy. The twenty-five counties with values at $50 and below have 21 per cent of tenancy. These groups happen to be, respectively, about equally above and below the average values and average tenancy for the whole state.

More examples might be given, but so far as the writer has made the test, the general relationship holds within each state. That it will hold where other conditions are equal seems to be beyond controversy. It does not always hold good from one state to another nor even within a given state, because of varying conditions; yet the exceptions are comparatively infrequent.[1]

Not only has tenancy either decreased, or increased at a relatively slower rate, in all parts of the North Central states where the price of land is below the average, but the actual number of tenants has in many instances decreased. That is to say, some farms which had been worked by tenants have passed into the hands of owners, tho in more cases, as in such pioneer sections as southwestern Kansas, the lower proportion of tenancy is due, not to this move-

[1] See article on "Tenancy in Iowa," Quarterly Publications American Statistical Society, March, 1911.

ment, but to the development of new farms operated by owners, the tenant farms holding their own in numbers or even increasing. Or the tenants may have decreased, but not so fast as the owners, such being the case in the high-priced sections of Illinois, and in half or more of Iowa. This of course means a decided increase in the size of farms. In the thirty counties of Ohio having farms under $60 per acre on an average there was a decrease of more than 1800 in the number of tenant farms, while in the rest of the state there was an increase in this class of over 2900. In both cases the number of land-owning farmers decreased, giving as a net result a number of farms for the state smaller by about 5300 than ten years ago. As a matter of fact the farms increased in size in all states of this group except South Dakota, but the increases were far from uniform over the states. In those districts in which the system of farming seems to be undergoing little change, an increase in the proportion of tenancy seems as a rule to be associated with an increase in the size of the farm. A gain in ownership, on the other hand, is associated with a change in the opposite direction or with absence of change. This does not hold good in districts where, for example, great wheat farms are being broken up into smaller ones; for here the first result is an increase in tenancy.

Values of land and size of holdings are by no means the only factors in the tenancy problem. Among others it may be mentioned that the character of the farming done is not the same in the case of the tenant and the land-owning farmer. In this North Central group of states, according to the census of 1900, the tenants had charge of more than their proportional number of farms on which hay and grain were the prin-

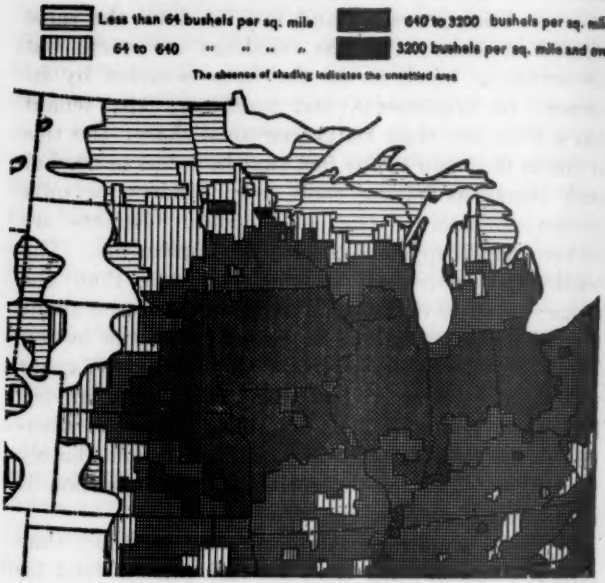
cipal products. On the other hand, they had little more than half their proportion of the live stock farms. These two classes of farms comprise the greater part of all farms in this section; hence in the proportional distribution of these farms between owners and tenants is seen the leading characteristics of tenant and land-owning farmers, so far as the general type of agriculture is concerned. The tenant raises grain to sell; the land owner more often raises it to feed to live stock. The tenant produces but three-fourths of his proportional share of hay and forage, and this corresponds almost exactly to the proportion of the cattle which he owns. In the ownership of sheep he is even farther behind the land-owning farmer. Yet in the case of swine he has his full quota, and here is an exception to the generalization that the tenant raises grain to sell; tho he does this to a great degree, he feeds a great many hogs.

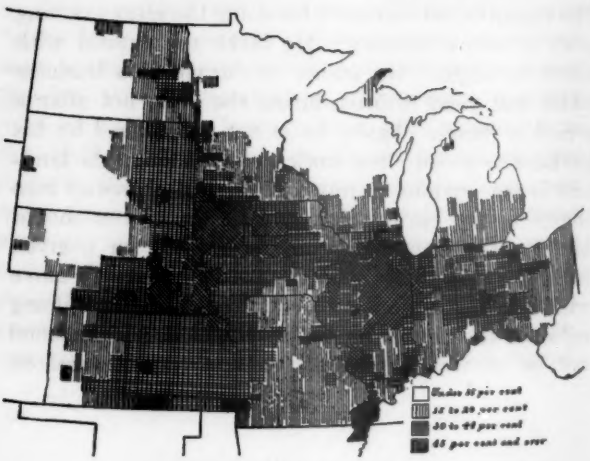
The leading cereals of the North Central states are corn and wheat, together constituting about four-fifths the value of all cereals. The tenants grow only two-thirds of their share of the wheat, yet they exceed by one-third their proportional share of the corn. In the case of wheat, the conditions vary widely from state to state. In several of the distinctively wheat-growing states the tenants are growing more than their proportional share, leaving them with much less in the other states. With corn the conditions are more uniform, the tenant raising throughout proportionally more than the land owner. The less usual crops, such as vegetables, fruit, and tobacco, are grown mainly by the land-owning farmer. Couple with these facts of tenancy, — the prevalence of grain growing in general, and of corn growing in particular, and the scarcity of cattle and sheep, — the charac-

teristics of the tenant farm itself. There is the same value in land per acre, and not far from the same number of acres; but the buildings are worth but five-sixths as much as on the farm occupied by its owner. In implements and machinery the tenant has a little less than his proportional share; tho this is due in the main to the fact that he is less in need of such things as haying tools, corn binders, or milk separators than is the land owner. Tenants are seldom handicapped by lack of implements. The tenant farmer himself is much younger than the owner; he stays on the same farm not to exceed about a third as long a period of time as does the owner. These facts are all significant. They picture a farmer with a poor outfit of buildings, with comparatively little grass land, with little live stock, giving his attention to the growing of grain to be hauled immediately to market. The one exception to this condition is the feeding of much of his corn to hogs.

If these conditions are accurately outlined they present a reason other than the high price of land for the concentration of tenancy on the better land. The tenant is not equipped for doing the more exacting work of stock farming. He lacks the capital with which to begin. He wishes to engage in a business which will yield returns during the year, not after a period of years. Again, he is not encouraged by his landlord to go into live stock to any extent; the landlord is not anxious to put a great deal of money into the necessary barns, silos, and fences. Even should he have the opportunity to raise stock on a given farm, the probability that he will be obliged to move within a short time is a discouragement against doing so, since the next farm he takes will in all likelihood not be so well equipped. In one respect landlord

PRODUCTION OF CORN PER SQUARE MILE





PERCENTAGE OF TENANCY, 1910

and tenant seem to be agreed, — they want prompt returns on the outlay. These conditions cause the tenant to gravitate toward the section where the type of farming for which he is fitted, and which meets his needs, can best be done. This means a district adapted to the growing of grain, especially corn.

That tenants are prevalent in the heart of the grain-growing section may be seen from the maps on page 722. The striking similarity of a tenancy map and a cotton area map for the South has often been noted. The relation of the corn belt to the density of tenancy in the North has not attracted so much attention. The map showing the corn belt is from the census of 1900, while that showing tenancy is for 1910. There is, however, no serious incomparability on this account, since the corn-belt outline is quite stable. The resemblance between these two maps, even as they stand, cannot escape notice; and yet, as it happens, they are so constructed as to cover up certain coincidences. For example, the corn map shows the same density for northeastern Missouri and southern Iowa as for the greater portions of Iowa and Illinois, while the fact is this section had just barely enough corn to admit it to the first class. On the other hand, a considerable number of counties within this area were just low enough in tenancy to drop them into the lower class on the tenancy map. A map more carefully shaded (as might be done by the dot system of mapping) would show a closer relationship than is here brought out. The other important instance, aside from the one mentioned, in which the two maps do not correspond, is the projection of the dense tenancy area into southwestern Minnesota and eastern South Dakota. This is a region in which the acreage of corn has increased rapidly during the past ten years;

therefore a map showing the corn area up to date would correspond much more clearly with the tenancy map than does the one given. The same is true to a smaller degree of the southern limits of the corn belt, both corn and tenancy having moved in that direction. In Kansas and Nebraska, especially, the tenant is a corn grower, being decidedly low in live stock and hay production and, in Kansas especially, low in wheat production.

It is not intended to suggest that there is any magical connection between tenancy and the growing of corn. The connection is very much unlike the relation of tenancy to cotton growing. It would seem to be due more to the failure, perhaps the inability, of the tenant to enter the more profitable business of stock raising than to any other cause. True, in some cases the landlord requires the tenant to grow corn and deliver it to him at market price, in order that he may have a supply for feeding stock, and also in order to keep his land in better condition than it would be with small grain growing; but these cases are surely not very common. The tenant is the type of farmer to prefer the extensive to the intensive system of farming. In the northwestern part of this section, where corn has not proved a profitable crop, and yet where land has advanced rapidly in price, the tenant farmer is a wheat grower. This may be seen on the map if the wheat section of the Red River Valley be kept in mind, for over a considerable portion of this valley the tenancy shading is noticeably dark. These are the two sections, the corn and the wheat areas blending into each other, in which a simple exploitative system of farming is possible. Here tenancy is not only high, but is on the increase at a rapid rate.

Around the outside of this great area there is not the opportunity to plant and reap on a wholesale plan.

There is a great difference between the eastern and southern parts of Ohio and the rest of the state in respect to soil and topography, and the line of the division shows plainly on the tenancy map. In the southern and eastern portion, with its hilly land, wheat and corn are not grown in great quantities. It is here that sheep raising and dairying are common, neither of which businesses predominates amongst tenants. These businesses are not adapted to the ability of the tenant; the soil is not adapted to the crops which he prefers. It seems that a diversified type of farming is all but inevitable in a district of this kind. Again, this is not the land to rise in price as does the richer and smoother land, and so does not get beyond the reach of the farmer in price per acre. The advantage of the large holding is less than in the case of land adapted to the growing of grain, thus contributing another factor toward keeping the value of the farm unit from rising too high for the farmer of moderate fortune. In Michigan, where tenancy is low, farming is diversified. Fruit growing is prevalent, in some counties great quantities of potatoes are raised; dairying, and sheep raising predominate in others. All of these facts apply to Wisconsin, which among the older states has a lower rate of tenancy than any other in the middle West. Wisconsin is preëminent in the dairy business, but ranks comparatively low in grain. Unquestionably there are other factors than those here discussed which must receive attention in a treatise on tenancy. Among these is the matter of nationality of the farmer, — and the affinity for land of the Germans and Norwegians, so numerous in Wisconsin, is proverbial.

Passing to Minnesota, the chances for long furrows and a smaller variety of operations for a given farm increase greatly. And immediately tenancy is more frequently found. In a few of the choicest counties forty-five per cent and over of the farmers are tenants. Why, it may be asked, since wheat farming is of the extensive sort even more than corn, does not the same amount of tenancy develop in connection with it? The answer is not difficult. Up to the present time wheat has been a pioneer crop. It has been raised for a comparatively few years, ten, twenty, or thirty, after which it fails to yield as well as before, and is followed by a more diversified system of agriculture. During the wheat régime the value of the land is low. There is other land not very different which can be homesteaded, or bought at government price, or on long time from a railroad company. While these conditions obtain there are indeed always a great many speculators, non-resident landholders, who would be glad to let their land on almost any terms. But the farmer can buy for himself, and does, but no one can be found to take the speculator's land.

Ten years ago there was very little tenancy in North Dakota. At present there is a great deal in the eastern part of the state; but the western half is a poor place to hold land with the expectation of lively competition for it on the part of tenants. The same is true to a much smaller degree of western Nebraska and Kansas. These states, with land lower in price than that of Iowa, have about the same proportion of tenancy. Here again is the contrast between the more and the less diversified farming. It is not certain diversified agriculture cannot develop in these states, as in those to the east of them; but it is certain that for the present they lend themselves more readily to

exploitation under a one-crop or two-crop system. Here, especially, the tenant keeps few cattle or sheep, produces far less than his proportional part of the hay, but gives his attention primarily to producing corn and hogs. Everything is favorable for a high rate of tenancy. The land is too dear in price for the poor man's pocketbook. It is level, uniform, and easy to till. Moreover it is held in large tracts, making it easy for the tenant to get in one block all he can cultivate. Under the system of farming here practised these large units are more efficient than smaller ones, but the great size is in itself a factor, in addition to the high price per acre, precluding ownership by a man of small means. In these states, as in the others previously noticed, high prices of land and high tenancy go together, and low prices and low tenancy together. In Kansas where the land values are fairly uniform over a considerable part of the state, tenancy shows a similar uniformity. In Nebraska, where the range of prices is much greater, there are many more counties in each of the extreme groups, all of the conditions of high tenancy being present in the eastern part of the state and the low values excluding it from the western part.

Turning to Missouri the conditions are essentially different. The whole south central part of the state is broken and hilly. Thus it is quite well adapted to fruit growing and diversified farming, but poorly adapted to the cultivation of the cereals on a large scale. Hence tenancy here corresponds to that of Wisconsin, Michigan, or eastern Ohio, in contrast to that of the leading grain-growing districts. This land is still largely undeveloped, is low in price, and is therefore in great measure either occupied by its owner or not at all. Southern Illinois and Indiana

are likewise not so well adapted to grain farming. Here again, with the smaller farms, and the still smaller fields, combined with low prices of land, the conditions are favorable for ownership which is, as previously stated, relatively high.

From two different standpoints, then, the same facts are discovered. High price of land and high rate of tenancy go hand in hand, likewise low price of land and low rate of tenancy. Yet it does not follow that the one condition is the sole cause of the other. The American farmer has been slow to adopt a diversified system of farming. Labor has been the scarce factor, and therefore the dear one. The great desideratum has been a system which required the minimum amount of labor, and since land has been the plentiful agent, it has been exploited as tho it would continue to yield crops gratuitously for all time. With the growth of population and the consequent demands for more foodstuff the value of land has followed the rise in the prices of its product. But the land which responds best to immediate demands rises most. As a result the fertile land capable of producing good crops without the use of high-priced fertilizers, or great outlay for drainage, rises first and highest. And while this movement is in progress there is a process of natural selection by which the less efficient farmers are shifted to the cheaper land of the outlying districts; or if they remain, they, or more likely their sons, are within their own neighborhoods relegated to the class of tenants. Speculation is still prevalent in the sections of high-priced land, and is a great factor in keeping the price so high that ordinary commercial returns cannot be made on the investment except by men and methods above the average. This is in itself one of the primary causes

of tenancy. Such a sifting and shifting does not take place in the sections where land is less well adapted to exploitation and less attractive to speculators; hence the less efficient may retain ownership. At the same time the type of farming adapted to these sections favors the efficient.

These conclusions are borne out by the fact that within the districts of high-priced land the farmers practising the intensive methods or the rational method of diversification are those who in great measure own the land they till. In the parts of Iowa, for example, where dairying is most prevalent, even tho the price of land is high, tenancy is relatively low. The same is true of the intensive farming, such as truck and fruit growing. It can be done, and is done, on high-priced land without the aid of a separate landlord class. Hence the conclusion seems inevitable that the system of farming is a factor equally important, if not more important, than the price of land in turning the scale in favor of ownership or in favor of tenancy. Those who engage in what is called the mining type of farming are losing their hold on the soil. Those engaged in a more profitable type are retaining it to a much greater degree. Whatever forces raise the value of land make greater demands on the farmer who aspires to its ownership. Whatever increases the efficiency of the farmer makes ownership more probable. The extensive pioneer methods of farming succumb in the face of great waves of rising prices.

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THE CHECK-OFF SYSTEM AND THE CLOSED SHOP AMONG THE UNITED MINE WORKERS

SUMMARY

The check-off system now in general use by the United Mine Workers, 730. — Why the operators have granted it: a precedent in the existing check-off for supplies, and in the presence of the check-weighman, 731. — History of the check-off system for union dues, 734. — Its main features, 735.— The unions' "card day" done away with, 737. — Effect of the check-off in strengthening the union, 738. — It acts to bring about virtually, tho not formally, the closed shop, 739.

SINCE the adoption of the joint agreement system between miners and operators in 1898, the United Mine Workers' organization has put into general effect an important and unusual method of collecting union dues from its members. This it has accomplished by the help of the individual operator, who deducts or checks off from the wages of his employees the union dues subscribed by them to the union. After deducting these dues at the company office on pay-day the operator turns over the amount collected to the officers of the local union. The arrangement exists at present between union miners and operators in fourteen or more coal-producing states.[1] Such proof of the friendly relation between miner and operator is worth more than passing notice, especially when one considers the bitter conflicts which have occurred in the past between capital and labor in the country's coal industry.

Why have the operators granted this remarkable concession to the United Mine Workers? Has it been solely because of the increasing strength of the organization?

[1] As to the adoption of the check-off in other industries, see an article in the Johns Hopkins University Circular, 1910, No. 4, describing its operation in the window glass industry, and in certain garment workers' shops in Baltimore.

In attempting to answer these questions, we find that other factors than the numbers and influence of the miners' union contributed.

First of all, the union representatives found a precedent for their demand in circumstances peculiar to the mining industry itself. Before the introduction of the check-off for union dues operators were already in the habit of making deductions from miners' wages on pay-day, after the manner of the proposed check-off, for house rent, supplies, and the like. The following list of such items is taken from a Pennsylvania miner's due-bill, as it is called:[1]

Supplies	$8.25
Blacksmith	.30
Rent	6.00
Groceries	20.18

The item "Supplies" indicates that the miner was indebted to the operator for powder and oil; the remaining charges, that he had his tools sharpened or repaired by the company blacksmith, that he rented a dwelling house owned by the operator, and bought groceries at the store so frequently located on company property and managed directly or indirectly by the employer. Still other items are found in coal miners' due-bills in the different states. Monthly payments are made toward the maintenance of a hospital conducted by the operator for the benefit of injured employees, and for the support of a school which is under the operator's management. Regular contributions to accident and death benefit funds appear.[2] These items, it should be borne in mind, are typical not only of present but also of past conditions in the coal industry. They are practically fixed charges, determined by the conditions of employment; for the mine worker in many cases is shut off from the life of the ordinary community and

[1] Roberts, Anthracite Coal Industry, p. 148.

[2] At certain Pennsylvania mining properties controlled by a single company the miner's contract provided that contributions to the local clergy and taxes were to be deducted from his wages on pay-day. Proceedings of Anthracite Coal Strike Commission, No. 1973.

becomes correspondingly dependent on his employer.[1] In some instances the indebtedness indicated by such charges even exceeds the miner's monthly wages. He then receives what is familiarly termed by the anthracite workers a "bob-tailed check."

As already stated, these deductions from the miners' due-bills gave a precedent for demanding the check-off for union dues. The United Mine Workers' representatives based their arguments in part upon the circumstances already outlined, declaring that the check-off should be accepted as were deductions for other purposes; namely, as a condition of employment.[2] The operators replied that the check-off for union dues would be illegal, and that there was a possible element of compulsion involved in its operation. The answer of the miners' representatives was that, if the check-off was illegal, then the deductions already made by the operators were also illegal; and they said in effect that the operator himself exercised compulsion over his employees, especially in making deductions for "store" charges, and this even when a miner signed an order requesting his employer to make such deductions. The operator in many cases practically forced the miner to agree to make purchases at the company store if he wished to secure employment at a particular mine. As will be seen later, the miners' representatives, in order to secure the check-off, were willing to furnish the operators with a written order from each miner requesting that deductions be made for union dues. As for "store" charges, the miners have generally maintained, and with reason, that the operator usually secures a direct profit from the company store.

One other circumstance in the coal-mining industry before the introduction of the check-off strengthened the

[1] The check-off is in operation under similar conditions in the brick-making industry. At Thurber, Texas, a local of the Brick, Tile, and Terra Cotta Workers' Alliance has secured the check-off by agreement with the operator of the brick yard, who practically owns the town, its stores, etc.

[2] Proceedings Interstate Joint Convention, 1901, p. 105 ff.

miners' position in their demand for this method of collecting union dues. This was the establishment of the office of check-weighman, whose duties are, in brief, to protect the miners' interests in the screening, weighing, and "docking" of coal by the company. He takes his place at the company scales and checks up the work of the docking boss or company weighman. He is generally chosen from among the employees at the particular mine and his salary is paid by the miners. For our present purpose the importance of the check-weighman lies in the fact that his salary has been collected, and this in one of two ways: either by the contribution of a certain amount of coal from each miner, the total amount so contributed being credited to the check-weighman's account by the company, just as in the case of the individual miner with his own output; or by a deduction made from each miner's wages on pay-day, after the manner of the check-off. Thus a certain portion of the miner's earnings was already deducted by the operator for a purpose wholly in the interest of the former.

It is difficult to state with accuracy to what extent the introduction of the check-weighman helped to bring about the check-off for union contributions, and this point should not be unduly emphasized. The mine workers did not everywhere secure the services of the check-weighman, even after the passage of state laws establishing his office, for, as was natural, many operators in the different states strongly opposed his introduction. However, we learn from the Bureau of Labor and Mining Reports of Ohio, Illinois, and Pennsylvania that previously to the adoption of the check-off, check-weighman laws had been passed and that check-weighmen were to be found at certain mines in these states. In Ohio such a law was passed in 1872, in Pennsylvania (bituminous) in 1873, and in Illinois in 1883. It is also significant that in at least ten other states check-weighman laws were passed before the check-off was granted, as follows: In Indiana in 1883; Iowa, 1880; Kentucky, 1886; Tennessee and Missouri, 1887; West

Virginia, 1891; and subsequently in Kansas, Arkansas, Michigan, and Montana.[1]

The United Mine Workers' organization was not the first to introduce the check-off in the coal industry, for it was advocated as early as 1889 by Ohio members of the old National Progressive Union. According to the Report of the Ohio Bureau of Labor of that year, the latter organization demanded it in two different strikes affecting five mines in the state; in one instance asking for "the check-off — granted to us as before May 1, 1889," and in the second, the "usual check-off for the State levy made by the Progressive Union."

In 1890, when the United Mine Workers first became of importance as a national organization, its representatives secured the introduction of a clause in the agreement between miners and operators of the Hocking coal regions in Ohio, which stated that the check-off was to be "restored by the companies where it does not exist." In the early 90s the check-off was in force at certain mining properties in Ohio, Illinois, and Indiana, but its adoption was not general. In 1898, the date of the first interstate joint conference held between the United Mine Workers and coal operators of the so-called Central district, which comprises Ohio, Indiana, Illinois, and Western Pennsylvania (bituminous), the check-off was introduced in the state agreements made by members of this conference, with the exception of that for Western Pennsylvania. With this exception it has remained in the agreements to the present time. In 1898 certain operators of Kentucky also granted the check-off. In Western Pennsylvania (bituminous) the check-off has not been generally accepted in the state agreements. Yet in 1902 it was in force at about fifty mines.[2] In the an-

[1] At the present time, the check-weighman's services have come into much more general use. In several states he directly assists in the operation of the check-off for dues, by preparing the list of miners' names whose contributions to the union are to be deducted at the company office. This he is able to do to advantage while at his post at the company weighing scales.

[2] Proceedings Interstate Joint Convention, 1902, p. 119.

thracite region of Pennsylvania, the only general concessions obtained by the miners regarding the collection of union dues were those made in accordance with decisions of the Conciliation Board established by the Anthracite Coal Strike Commission. By these decisions representatives of the United Mine Workers were permitted to collect dues from its members on company property at the different mines. In July, 1909, however, the United Mine Workers' Journal announced that the check-off had been granted at one of the mines run by an independent operator. In 1899 the check-off appeared in the agreement between coal operators and the United Mine Workers covering the newly organized "South Western Territory" (Missouri, Kansas, Arkansas, and Indian Territory) and, after the year 1903, continued up to the present time. In 1900 and thereafter the check-off is found in the Tennessee state agreements; in 1901 and thereafter in Kentucky; in 1902 and thereafter in Iowa and Michigan; in 1903 in West Virginia (suspended in 1906–08); in 1904 and thereafter in Wyoming; and in 1907 and thereafter in Montana. The check-off is now prevalent in at least fourteen different states. These are Illinois, Indiana, Ohio, Pennsylvania (bituminous), Kentucky, Tennessee, Iowa, Michigan, Kansas, Arkansas, Missouri, Oklahoma, Montana, and Wyoming.

The main features of the check-off, as it appears in its most complete form, are illustrated by the Illinois agreement for 1908–10. The operators agree to "check-off union dues, assessments, and fines from the miners and mine laborers, and on proper individual or collective continuous order. After the pit expenses for powder, smithing and a proper proportion of mining tools," preference will be given to the "ordinary dues and assessments." The check-off is "not to exceed $5.00 in any one pay for fines and initiation fees unless by special agreement." A detailed statement is to be furnished by the operator giving the total amount collected, also the names of miners whose dues have not been collected. Any fine imposed under the agreement may be appealed and "withheld by the

operator" until the matter has been adjusted. "Card day" (to be explained presently) is abolished.

The "individual or collective continuous order" is made out in legal form by attorneys representing the operator and by the union officials. The writer is informed, however, on good authority, that for the past few years in Illinois, the individual miner has not been required to sign an order. It has been customary for the union officials at a particular mine simply to hand in a list of names of employees whose dues are to be checked off. Of the thirteen other states in the list referred to above, all but two, Michigan and Ohio, require by the terms of agreement either an individual or collective order, to be given continuously or on demand. In Western Pennsylvania (bituminous), in 1904, the check-off was granted where approximately 80% of the employees at a particular mine were in favor of this method of collecting union dues and then only upon written individual order from each employee.[1]

What advantages, now, did the operators secure by conceding the check-off? First of all, they directly assisted the miners' union in obtaining funds with which to unionize non-union fields. By thus requiring competitive operators to enter into state or interstate agreements, they equalized conditions.[2] Further, by refusing continuance of the check-off the operators were able effectively to discipline the union. A committee appointed at a national convention of coal operators' associations in 1905 recommended the introduction of a provision in joint agreements to the effect that in case of a local strike in violation of contract, the check-off should be suspended at a single mine, or if necessary over an entire district, for a period of at least

[1] Proceedings Interstate Joint Conference, 1904, p. 127.

[2] In response to the operators' demands for the unionising of mine labor in West Virginia the union representatives asked that they be furnished the necessary funds through the extension of the check-off in the Pittsburgh field. Proceedings Interstate Joint Convention, 1901, pp. 58–59. Proceedings Interstate Joint Convention, 1902, p. 62.

thirty days; and this provision was subsequently adopted in modified form by a national association of operators.[1]

By granting the check-off the operators also did away with the abuse of "card day." Formerly on "card day" a union representative stationed himself at the shaft entrance of a mine and required that each miner produce his union card before going to work. In this way the union official was able to find out whether an employee was a member of the union or not, and from the entries on the card, whether the member had paid his dues in full. This practice, however, might hinder the proper working of the mine, for, according to one informant, a mine employee in Illinois who could not give a satisfactory account of himself when interviewed might be sent home by the representative of the union. If the employee chanced to hold an important position in the mine, carman for example, his enforced absence from work might seriously cripple the working of the mine. Evidently, if the check-off was conceded, the union official could at once dispense with "card day."

To offset these advantages, the operators were forced to recognize the obvious fact that, in granting the check-off, they were assisting in building up a defence fund for the union to be used in time of strike or lock-out, or, in other words, they were "cutting their own throats."[2] The force of this objection may be seen when it is stated that according to the secretary-treasurer's report of the United Mine Workers over $5,900,000 was paid out for "aid" by that organization from the years 1900 to 1908 inclusive.[3] Moreover, the individual operator might be sued for damages by a miner who wished to recover through the courts

[1] Justi, Papers and Addresses on Labor Problems. In 1908 the Indiana Coal Operators' Association temporarily suspended the check-off throughout the state because of an alleged illegal stoppage of work by miners at a single mine. Bureau of Labor Report, Indiana, 1907–8, p. 112. Proceedings United Mine Workers' Convention, 1909, vol. 1, p. 596.

[2] Proceedings Interstate Joint Convention, 1903, p. 67.

[3] Proceedings United Mine Workers' Convention, 1909, p. 93.

union dues checked off against him.[1] Finally, the operators found that they were arbitrarily restricting the supply of labor by collecting a high initiation fee for the union through the check-off. With the evident purpose of offsetting this tendency there is occasionally in state and district agreements a restriction of the initiation fee to a uniform rate of from $2.00 to $10.00. In certain instances, however, the union set the initiation fee, at least temporarily, as high as $50.00.

For the United Mine Workers the check-off brought with it a large increase in funds, which strengthened each local body as well as the central organization. It had another and surprising result, and one which the union leaders could scarcely have foreseen: they obtained the aid of the operators in disciplining members of their own organization. In the Illinois joint convention of 1902, a representative of the miners stated that in many cases local union officials were unable to keep members in line and that if the agreements were to continue it would be of advantage not only to the union but to operators as well, if the individual operator were to check-off fines imposed upon organization members.[2] Naturally enough, however, the operators refused to go so far as to deduct fines for offences imposed contrary to the terms of the joint agreements.

In spite of all its advantages for the union, the wisdom of the check-off system may be criticised from the point of view of the union itself in one particular. As its opponents among the operators declared, it was a poor union member who would not make payments voluntarily and had to be forced to do so. Evidently, however, the United Mine Workers cannot afford to stand on sentiment on this point. They have accepted the check-off as inevitable under pres-

[1] In one instance an Indiana operator was sued by four miners on this account and had to spend $500 in his defence. Proceedings Interstate Joint Convention, 1901, p. 111. In another instance, when miners protested to the operator against he collection of union dues through the check-off, the union refunded the amount so collected. Proceedings Interstate Joint Convention, 1902, p. 67.

[2] Illinois Joint Convention, 1902, pp. 226–227.

ent conditions of employment in the coal industry. The miners' representatives themselves have admitted the difficulty of securing regular payment of dues. As is well known, members are inclined to contribute to the union only at "strike time," tho such a policy would be fatal to the life of a national organization. For example, the members of the United Mine Workers, or miners controlled by that body in the anthracite fields of Pennsylvania, numbered 150,000 at the close of the anthracite strike of 1902; by November, 1904, this number had dwindled to less than 40,000.[1]

Moreover, miners are continually shifting from one mine to another in different parts of the country and there is a continual influx of Southern-European labor, which is difficult to unionize. These facts must tend to confirm the union representatives in adherence to their present policy of demanding the check-off.

The logical outcome of the check-off is the closed shop. Even in its partial enforcement it tends to produce closed-shop conditions. It has already been indicated how this comes about; first from the continued pressure brought to bear on a minority of non-union miners by the majority of union members at a particular mine, and, secondly, from the continued favor shown toward union labor by the operators under the system of joint agreements. Under these conditions non-union men may be forced gradually to submit to the check-off for union dues, as they do to wage deductions for other purposes, because it becomes almost a condition of employment. Especially is this true when the operator no longer demands the individual written order for the check-off but accepts the list of employees' names given him by the union officials, thus removing the single protection afforded non-union workers.

Two effective arguments were used by the miners' representatives in the convention of the Central district in favor of enforcing the check-off upon all employees eligible to membership in the United Mine Workers, and

[1] F. J. Warne, The Outlook, Dec. 16, 1905.

for the resulting closed-shop conditions. One was that under the terms of the state agreements their organization was obliged to become responsible practically for the conduct of every miner and mine employee working under such agreements.[1] Moreover, they declared, all miners, whether union or non-union, who were working under joint agreements, were benefited thereby and should pay a fair share of the expense necessary for their maintenance by contributing union dues.[2] This latter argument is very similar to one used by Judge Gray in his decision confirming the action of the Anthracite Board of Conciliation regarding the payment of the check-weighman's salary. Judge Gray held in effect that, since all the miners at a particular mine profited by the check-weighman's services, the minority of miners should submit to the will of the majority and should also pay their share of that official's salary.[3]

To what extent do we in fact find the closed shop in the coal-mining industry? There is evidence to show that it exists in Illinois and that there is an approximation to it in at least two other states, Indiana and Ohio. As regards Illinois, we have the statement of Mr. Justi, in 1903, that, with the exception of one mining property, there was "not a single non-union miner or mine laborer" in that state.[4] At the present time we learn on good authority that altho the closed shop has not been conceded to the miners by actual terms of contract in Illinois, the question has been settled practically in favor of the miners. In fact, the Illinois Operators' Association is now trying to secure the closed shop "on the other end," that is, to obtain an agreement with the United Mine Workers, under the terms of

[1] Proceedings Interstate Joint Convention, 1902, p. 56.

[2] Proceedings Interstate Joint Convention, 1904, p. 133.

[3] Scranton Tribune, Sept. 27, 1904.

[4] Mr. Justi also said, in making the above statement, that closed-shop conditions existed in Illinois as a consequence of the union rules of apprenticeship, which required the miner's preliminary service at the mine for a term of at least four years. This, however, does not invalidate the statements made as to the general influence of the check-off in bringing about the closed shop. Proceedings Interstate Joint Convention, 1903, p. 80.

which that organization shall effectively prohibit its members from securing employment with the few small operators in the state who have not yet joined the coal operators' association. In addition the writer was informed that if non-union labor were introduced at present in mines in Indiana and Ohio, union miners would at once go on strike. An Indiana operator also declared in 1906 that the United Mine Workers had a tacit understanding with the operators of that state that non-union labor should not be employed in the mines.[1]

It appears, then, that the check-off was advocated under circumstances peculiar to the coal-mining industry and that as its adoption spread with the growth of the joint agreement system between miners and operators in bituminous coal producing states, it assisted quasi-automatically as a "union organizer" toward bringing about closed-shop conditions. Probably its greatest significance to the United Mine Workers lies in the fact that when operated under the terms most favorable to the union, as in Illinois, it is a factor of the first importance in obviating the necessity of a formal demand for the closed shop.

F. A. KING.

[1] Proceedings Interstate Joint Convention, 1906, p. 190.

NOTES AND MEMORANDA

THE *RÉGIE INTÉRESSÉE DU GAZ* AT PARIS

THE exclusive monopoly granted in 1855 to the Paris Gas Company expired at the end of the year 1905. The fifty-year franchise had proved defective in several respects, and during the latter part of the concession the relations between the company and the municipality had been strained. Opposition in the municipal council to further private monopoly of the gas supply was sufficiently strong to prevent the issue of a new franchise to the old or any other gas company. Political conditions in the French parliament prevented the adoption of a policy of municipal ownership and operation, or, as the French would say, *régie directe*. The result was the adoption of a peculiar compromise, to which the French give the name of *régie intéressée*.

This compromise vests the title to the gas plant in the municipality. The operation of the plant, together with an interest in the profits, is confided to a general operator or *régisseur*. Yet the arrangement cannot accurately be described as a lease. The municipality not only has prescribed in advance a schedule of rates and a procedure for the division of profits but also has retained the power to alter the rates, as well as the scale of wages and general conditions of employment. The discretionary authority of the *régisseur* is so restricted, and the procedure for the division of profits so peculiar, that the arrangement partakes less of the nature of a lease than of direct municipal operation. Indeed the *régisseur* may be regarded as a public business manager, employed under a profit-sharing plan, designed to afford him an incentive to the exercise

of the same personal initiative as under private ownership. The circumstance that the arrangement was satisfactory to the opponents of direct municipal operation indicates at least that it apparently preserved the reputed advantages of private enterprise in the supply of gas.

This plan is sufficiently interesting to merit more detailed notice. By its terms the management of the gas service in Paris was to be entrusted for a period of twenty years to the most favorable bidder. This personage was to organize a company and raise a working capital of thirty million francs. Five millions of this should be deposited with the municipality as security for the fulfilment by the company of its obligations. All additional capital should be raised as required by the municipality itself. The operating company should defray all operating expenses, maintenance charges, and taxes out of the proceeds of the sale of gas. Eventual differences of opinion as to which items should be charged to operating expenses, and which to the capital account, should be determined by the prefect after a hearing at which both parties, that is, the company and the municipality, should be represented. Elaborate provisions were made to avoid any such misunderstandings at the commencement of operations, or subsequently. The price of gas was fixed at the beginning at 15 centimes per cubic metre for gas consumed for municipal purposes (the same price as that established in 1855), and at 20 centimes for other gas (two-thirds of the price established for private consumers in 1855). This price should be reduced by not less than one-half of one centime per cubic metre whenever it should appear that the share of the profits accruing to the city from the operations of the preceding year would have been more than twenty million francs, had the reduced rate been in effect throughout that year. How this share of the profits should be computed will be explained directly.

Before the operating company might lay claim to any profits, it must first provide (*a*) for the interest and amortization of the loans made by the municipality for the pur-

pose of reducing the price of gas in 1903 and of acquiring the gas company's equity in its plant in 1906; (*b*) for the interest and amortization of any additional loans that might be made to finance the future expansion of the gas system; (*c*) a sum sufficient to bring the return on the five millions of securities deposited by the company with the municipality up to five per cent; and (*d*) a sum equal to one-twentieth of the profits of the operating company, to be set apart as a reserve. The surplus receipts, or net income, should then be divided between the company and the municipality in the following manner: — first, the company should receive a sum sufficient to pay five per cent on that part of its capital not deposited in the form of securities with the municipality. This sum, however, would be diminished, if the company should fail to supply gas of standard purity, pressure, and illuminating and heating power, or fail in certain other respects properly to fulfil its obligations towards the municipality. Secondly, whenever the conditions for the reduction of the price of gas should be fulfilled, even if the city should not choose to take advantage of that fact and demand a reduction of the price, the company should receive a supplementary sum of 150,000 francs per annum thereafter until the end of its term, nor might such supplementary sums be thereafter diminished if the share of the profits accruing to the city should for any cause fall below twenty million francs, unless it should fall below sixteen million francs. In that event, all supplementary payments to the company must be suppressed. If the net income of the city from the gas service should fall below fourteen million francs, the return to the operating company upon its capital must be reduced from five to four per cent. Thirdly, the rest of the receipts of the company, after the preceding payments have been made, must be paid to the municipality as its share of the profits. Finally, the city reserved the right to denounce the arrangement at certain specified dates before its expiration upon payment of a stipulated indemnity to the company.

Apparently all possible contingencies were anticipated and provided against. The arrangements for the sharing of profits and the reduction of rates are certainly ingenious. Yet no ingenuity can anticipate the unpredictable. If the unexpected should happen, the city has in reserve one drastic means of protection in its power of repurchase. That the arrangement was satisfactory to investors is attested by the fact that no less than thirteen bids were received from prospective *régisseurs*. The successful bidder obtained from the municipality an assurance that any additional charges which might arise through the increase of wages or improvement of the conditions of employment would be met by the city itself. This bidder was selected from among five who submitted equally favorable bids by the device of requiring each to send in a sealed proposal offering to relinquish a percentage of the supplementary profits to be earned by eventual reductions in the price of gas. The competitor consenting to relinquish the largest percentage was awarded the prize.

This arrangement was the culmination of a long experience with public service corporations on the part of the municipal authorities of Paris. They were among the first deliberately to choose the policy of regulated private monopoly in such businesses as the supply of gas, and under Napoleon the Third special limited franchises were granted to the leading public service corporations of Paris, providing for the most effective control that his skilled prefects could devise. The French have been reluctant to abandon this policy of controlling monopolistic corporations through the instrumentality of special limited franchises, yet the necessity of more effective control has forced the development of the gas franchise into this peculiar form of a *régie intéressée*. This probably illustrates the kind of arrangement that any municipality is likely eventually to reach, which refuses to accept a policy of direct municipal operation, or of effective control through a public service commission. The disadvantages of the *régie intéressée* as a mode of control are obvious. That it possesses any com-

pensating advantages over the alternatives of municipal ownership and direct municipal operation or regulation by a commission remains to be demonstrated. The chief significance of the arrangement lies in the evidence it affords of the failure of the policy of control through limited franchises.

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PROGRESS OF THE AUTOMATIC LOOM

Among the recent inventions of cotton-mill machinery none is more significant than the automatic loom. In spite of the scepticism still shown in certain quarters, the day for the general acceptance of some type of automatic loom for weaving cotton cloth appears to be close at hand. An automatic loom, it may be explained, is one in which the shuttle, which carries the weft or thread crosswise of the cloth, is either automatically replenished or automatically replaced, without assistance from the weaver or stoppage of the machine. It thus becomes possible for a loom, barring accidents, to run continuously, instead of being brought to a standstill each time the thread on the bobbin in the shuttle is exhausted. In the ordinary loom, a fresh bobbin must be supplied every seven or eight minutes; hence stops are frequent. In the following paragraphs the recent progress of automatic looms is outlined and points of interest to economists are indicated.

The history of automatic looms centers around the Northrop invention developed by the Draper Company of Hopedale, Massachusetts. The Northrop loom, as offered to the trade in 1894, was the result of the efforts of five inventors, deliberately applied for fifteen years to the task of rendering practical the ideas brought to this country by Northrop. It has been described in a previous article;[1] hence it is not

[1] M. T. Copeland, Technical Development in Cotton Manufacturing since 1860, Quarterly Journal of Economics, November, 1909.

necessary to repeat the details. Suffice it to say that by January 1, 1911, approximately 200,000 Northrop looms had been installed in over three hundred American cotton mills[1] and several thousand in European mills. One other American automatic loom has secured acceptance on a limited scale; still others are on trial.

In Europe the appearance of the Northrop machine has roused widespread interest, but its high price has caused many manufacturers to seek a cheaper substitute. The extensiveness of these researches is indicated by the fact that during the past year no less than eight types of automatic looms, all of domestic manufacture, have been seen by the writer in European cotton mills.[2] This probably does not exhaust the list, since several of the looms were in use only by the manufacturers who had invented them, and it is reasonable to suppose that other experiments are being carried on semi-secretly in mills not visited. It seems to be the consensus of opinion that the Northrop loom is the best, altho a few of its competitors are said to possess certain points of superiority.[3]

All these looms, however, are suitable for weaving only plain cloth and fabrics with stripes or figures formed by manipulation of the warp threads. It has been a more serious problem to devise a means for automatically supplying weft to a drop-box loom, which uses filling of several colors. A drop-box loom has two or more shuttle boxes, according to the number of colors of weft yarn. The boxes are placed vertically, one above the other, and their movement is made to conform to the details of the pattern which is being woven.

[1] Data furnished by the Draper Company.

[2] Three were English, three German, and two French. Still another automatic loom, of Swiss origin, is mentioned by Mr. Besso, Cotton Industry in Switzerland and Italy, p. 38.

[3] The machine brought out two years ago by the Elsässische Maschinenbau Gesellschaft, Mülhausen, for example, has a new form of magazine from which the shuttle is filled. It is so placed at the end of the loom that it does not obstruct the weaver's view. Moreover, it is detachable so that it can be taken off to be mechanically refilled by a boy or girl. The weaver is thus relieved of all work even in replenishing the magazine and can tend more looms.

The best known cloths woven upon drop-box looms are checks and ginghams. Some of these fabrics have very narrow weft stripes; hence the failure to change shuttles at exactly the proper moment, the passage of an empty shuttle, or the insertion of a thread of the wrong color would produce a noticeable and serious fault. These stringent requirements and the multiplicity of shuttle boxes were obstacles in the path of an automatic drop-box loom. Nevertheless, the difficulties have been overcome.

In 1895, immediately after the appearance of the Northrop loom, Crompton and Knowles, loom manufacturers of Worcester, Massachusetts, began to experiment with automatic gingham looms. The first patent was taken out by Charles Crompton and Horace Wyman, and in 1905 a few such machines were placed in operation. During the following five years continual refinement and alteration materially improved this loom, which is adapted to the use of "filling of different colors inserted at predetermined intervals, and equipped with the necessary detector and safety devices to admit of weaving practically perfect goods."[1]

The first examples of these automatic drop-box looms were equipped with circular revolving magazines, from which the bobbins were supplied to the shuttles and in which the bobbins were arranged in such an order that the machines always took yarn of the proper color. This form of magazine has been discarded, however, in favor of a vertical stationary magazine provided with a separate section for each color of weft yarn. Similarly, the original electrical detector has been largely supplanted by a mechanical detector which feels the amount of thread on the bobbin at each passage of the shuttle. When the bobbin is nearly depleted another of the same color is automatically selected from the magazine. Yet it cannot always be immediately introduced into the shuttle, since the pattern may demand the shuttle from another box for the next pick. Consequently the selected bobbin is held in suspense until the shuttle for which it is intended again comes into action. The parts work in

[1] Quoted from a circular issued by the company.

unison, so that a fresh bobbin cannot be placed in the wrong shuttle. Several of the patents of the Northrop loom were utilized for the new gingham loom, and great credit is due to that pioneer work. On the other hand, the conquering of the difficulties peculiar to an automatic drop-box loom is an achievement of the first order.

The automatic gingham loom runs at least as fast as the ordinary loom employed for similar work, namely, 165 picks per minute, and occasionally exceeds that speed by five picks per minute. Therefore there is no loss in that direction. Moreover, the automatic loom is more constantly in operation, inasmuch as it does not stop each time a bobbin is empty. Thus there is a closer approach to the highest possible productivity. Of even more importance, particularly to American manufacturers, is the reduction in the amount of attendance required. In this country a weaver usually tends six ordinary drop-box looms. With the automatic loom the number is at least doubled and in some instances reaches sixteen per weaver. Altho a recent innovation, one mill already has two thousand of the new looms at work and several other manufacturers have ventured to try them.

With the introduction of the Crompton and Knowles loom, one may prophesy that eventually all types of loom employed in cotton mills will be provided with automatic weft-changing devices. The history of the power loom in the nineteenth century is being repeated by the automatic loom in the twentieth century.

For the economist the history of the automatic loom illustrates several principles. In the first place it shows the efforts to relieve pressure at the point in a cotton mill where the expense for labor has been highest. The readjustment of piece rates has reduced by one half the labor cost of weaving. The improvements in the mule, the ring frame, and the preparatory machines had already cut down the expense for labor in those departments, thus making the outlay for labor in the weaving department more conspicuous, until that too was diminished by the automatic loom. In the

second place, the flexibility of demand and the limits to monopoly power are indicated by the attempts to find a substitute for the Northrop loom. The ownership of the Northrop patents brings about a monopoly and the price of the machine is high.[1] Hence the European manufacturers are seeking a less expensive substitute. Thirdly, the use of the automatic loom will very likely cause greater standardization and specialization in weaving mills, since it is not economically advantageous to employ a weaver upon looms weaving several patterns. Hitherto, in fact, the introduction of the Northrop loom into Europe has been retarded by the practice among the European manufacturers of accepting so many relatively small orders that it is frequently impossible to avoid employing one Northrop loom weaver upon fabrics of several designs. The advantages attendant upon a more extensive use of the automatic loom, therefore, will foster standardization and specialization. Finally, the history of automatic looms tends to disprove the theory that inventions are sporadic products. All the advances in automatic looms have been the results of prolonged efforts consciously directed toward a specific end. The possibility of automatic looms had been broached prior to 1880, but it was not till the need became acute that the task was undertaken in an effective manner. That these contributions have been made by Americans is largely due to the greater premium which our higher wages have placed upon labor-saving devices.

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[1] This statement does not necessarily imply that the price is higher than is warranted by the expense and risk of the long period of experimentation.

APPENDIX

THE GERMAN INCREMENT TAX LAW OF FEBRUARY 14, 1911[1]

SEC. 1. When the title to parcels of land lying within the country shall be transferred, a tax shall be levied upon that increase in the value of the land which has arisen without the proprietor's having contributed thereto.

If the selling price of the land, or the total value of the land, in case only a part of the land is sold, shall not exceed, for improved property 20,000 marks, and for unimproved property 5000 marks, the transfer shall not be subject to the tax. Unimproved land shall include also land upon which there are gardenhouses, sheds, lumber and coal yards, and similar structures serving temporary purposes. Exemption from the tax shall hold only if the seller and his spouse have not in the previous year had an income of more than 2000 marks, and if neither of them is engaged in real estate operations as a business. If it shall appear that the sale has taken place on behalf of a third person, then exemption from the tax shall be granted only if the conditions for exemption apply also to the third person.

SEC. 2. The provisions of this law concerning real property shall apply to rights and claims to which the provisions of the civil code, applicable to real property, apply; but shares in mining property having the character of realty shall be exempt.[2]

SEC. 3. Of the same sort with the transfer of property in land is held to be the transfer of rights in the property of partnerships and association,[3] . . . so far as the property is composed of land, if either the utilization of the land is one of the objects of the enterprise or if the association is created in order to evade the increment tax.

[1] Translated by Dr. R. F. Foerster.

With the text of the German Act comparison may be made with the corresponding provisions in the British Finance Act of 1909–10, which imposes taxes on increment values as well as on undeveloped land and on mineral rights. The text of the British Act being comparatively easy of access to American students, it has not been thought necessary to print that also. A convenient edition is *The (1909–10) Finance Act, "The Budget,"* with introduction and notes by W. H. Aggs; London, Sweet & Maxwell, 1910.

[2] This provision refers to certain forms of mining property, remnants of ancient methods in the exploitation of mines.

[3] The various kinds of partnerships and associations are enumerated in this section.

SEC. 4. The obligation to pay a tax shall be established by the registration of the change of legal title in the registry of deeds [*Grundbuch*], or if registration shall not be necessary to the conveyance, by whatever action effects the change of legal title.

So far as the system of title registry shall not yet be in full operation, record of the transfer in public books shall take its place.

SEC. 5. If the actual change of ownership shall not take place within one year after the conclusion of the transaction calling for a transfer of ownership, then the increment tax shall be levied as a consequence of the transaction; and in case several transactions of this kind shall have been effected within the one-year period, the tax shall be levied as a consequence of the last transaction.

The obligation to pay the tax conformably to paragraph 1, shall begin with the lapse of one year after the conclusion of the selling transaction; the assessment of the tax shall have reference to the date on which the legal transaction, or in the case of a series of legal transactions the last of these, was concluded.

The following shall also be considered as legal transactions in the sense of paragraph 1:—

1. the transfer, by sale, of the rights of those who have acquired land;
2. the transfer of rights through offers binding on the seller; likewise through contracts by which the seller only is obligated to conclude a sale;
3. subsequent declaration by a purchaser, who has received a title in a transaction of sale, that he has acquired the title for a third person, or has assumed the obligations of a third person;
4. the relinquishment of rights by the highest bidder in an auction, and his declaration that he has bid on behalf of another person;
5. legal transactions by which a person is empowered to sell upon his own account a piece of land entire or in part.

SEC. 6. Taxation shall not be precluded by the fact that a transaction, taxable according to this law, shall be concealed under another legal transaction; especially not by the fact that, in lieu of the transfer of property, a legal procedure shall take place making it possible for a person without transfer of property, to deal with a piece of land as an owner would.

SEC. 7. The increment tax shall not be collected:—

1. in the case of acquisition through death in the sense of sections 1 to 4 of the Inheritance Tax Law, and in the case of acquisition by gift among the living in the sense of section 55 of the Inheritance Tax Law, so far as the form of gift is not expressly chosen to avoid the increment tax;
2. in the case of the establishment, alteration, continuation, and dissolution of the joint property of married persons;

3. in the case of acquisition through contracts concluded between co-heirs or sharers of a marital or inherited joint property for the purpose of a partition of the objects composing a legacy or a joint estate; likewise in the case of acquisition by purchase at auction, when that method shall be resorted to in the cases above named to give a title to a co-heir or a sharer;
4. in the case of acquisition by descendants from parents, grandparents, and more distant progenitors;
5. in the case of acquisition by a company composed exclusively of the seller and his descendants, or of the latter alone, and organized according to the civil code, or an association of the kind specified in section 3. The obligation to pay a tax shall arise if subsequently the company is made to include a member who is not a descendant of the seller;
6. in the case of acquisition of inherited property in a company composed exclusively of co-heirs and organized in accordance with the civil code, or in an association of the kind specified in section 3 (the provision of clause 5, sentence 2, shall apply);
7. in the case of exchange of parcels of land situated within the country for the purposes of rearrangement in larger units [*Zusammenlegung*], of the regulation of boundaries, or of the better configuration of cultivable areas [*Umlegung*], likewise in the case of the liquidation of rights to forest lands, when these measures rest on the demand of a public authority or are approved by such an authority;
8. in the case of the exchange of parts of fields between adjoining mines, and in the case of the merger of two or more mines for the purpose of their better exploitation, in so far as exchange or merger shall not be effected for the purpose of the evasion of the tax.

A surviving spouse who must share a joint property with the heirs of the deceased spouse shall be accounted a co-heir in the sense of numbers 3 and 6.

SEC. 8. The taxable increment shall consist of the difference between the purchase price and the selling price.

The price shall be determined according to the total amount of the consideration, including whatever obligations shall be assumed by the purchaser or shall fall to him in consequence of the sale, and including the usufructs reserved by the seller or appurtenant to the land; and in the case of contracts for services to be accepted toward payment, the price shall include the value at which the stipulated services shall be rated.

If one of the parties to the contract shall be given an option or authorization to specify within a given time the amount of the consideration, then the possible highest amount of the consideration shall gauge the amount of the tax.

SEC. 9. In the case of a transfer secured at auction the price shall be held to equal the amount of the highest bid, through which the purchase shall be effected, and there shall be added the obligations taken over by the purchaser. In case the highest bidder relinquishes his rights and declares that he has bid for another, then the value of the consideration, if higher than the highest bid, shall take the place of the highest bid.

SEC. 10. From the price shall be deducted the amount of the encumbrances assumed by the seller, of the machine equipment, including any which may be fixtures on the property, and further the amount of the growing crops.

SEC. 11. If a price shall not have been agreed upon or cannot be ascertained, then the value of the land shall be substituted for it.

The same shall hold when there shall go with the land one of the authorizations specified in section 2, or a right to usufruct, to whose removal the seller is not obligated, and when at the same time the value of the land shall exceed the amount of the consideration. When, in order to evade the tax, the parties shall disguise a part of the compensation in the form of a commission fee, or shall charge, upon a postponed payment of the price, a rate of interest exceeding the usual rate, or shall otherwise disguise the consideration, then an amount to be fixed by appraisal shall be added as a part of the consideration.

SEC. 12. In cases in which a value must be fixed in order to calculate the tax, the appraisal must have reference to the ordinary value of the land. The provision of section 8, paragraph 3, shall apply.

The value of recurring services or easements shall be fixed according to the provisions of the Inheritance Tax Law.

SEC. 13. If the taxable legal act shall have reference to both taxable and tax-exempt objects, and individual prices or values shall not be announced, then the tax authorities shall fix the part of the total sums ascribable to the taxable objects; if the persons obligated to pay the tax shall not within a prescribed term report the division of prices or values. If, in order to evade the tax, incorrect statements shall have been made, the amount is to be fixed by valuation.

The same shall hold for the division of the total amount among several taxable objects.

SEC. 14. To the purchase price there shall be added: —

1. a commission for the acquisition of the land (unless its value takes the place of the purchase price) of four per cent of the purchase price and, in case the purchaser shall have demonstrably paid a higher amount, including the local customary commission, this higher amount;
2. in case the land shall have been acquired at judicial sale at auction, and the present seller was at the time of the forced sale a mortgagee, the demonstrable amount of his defaulted claims up to the value which the land had at the time of the forced sale or, if the value shall have been higher at the

time of the registration of the claims, up to the value which it had at that time. If the claims were incurred in a legal transaction involving a consideration, they shall be regarded to the amount only of the consideration. If they shall be based upon a gift, or if they shall have been registered within a shorter time than six months before the beginning of the forced sale, then the claims shall be held valid only if in the circumstances gift or registration shall not have been intended as means of escaping the tax;

3. expenditures for buildings, alterations in buildings, and for other special permanent improvements, including such as have to do with agriculture and forestry, and expenditures for exploration and permanent equipment in mining, which have been made within the time to which the tax applies, and do not refer to the items to be deducted in accordance with section 10, nor serve for the current maintenance of structures, nor for the current utilization of land, so far as the buildings and improvements shall still exist. Further there shall be added five per cent of the calculable value of the expenditures, or if the seller is a builder or a building workman and has himself erected the buildings, fifteen per cent. But this provision shall not apply if the builder is a company within the meaning of the commercial code, or is an association not composed exclusively of building contractors or building workmen. Expenditures covered by insurance when devoted to the restoration of buildings which had been erected before the time included in the calculation of the tax, shall not be regarded as expenditures in the sense of this provision;
4. expenditures, services, and contributions for road construction, other transportation improvements including river improvements [*Kanalisierung*] and contributions for other public improvements rendered without due compensation and interest payment, so far as the expenditures, services, and contributions shall have been incurred in the period of time for which the tax is calculated. For every complete year of this period after the close of the calendar year in which the expenditures have been made or the services or contributions rendered, at the most however for fifteen years, four per cent of their amounts shall be added. On demand of the seller, in place of this interest addition, there may be added, conformably to the provisions of section 16, paragraph 1, number 1, an amount not exceeding the highest amount there indicated, taking into account also the expenditures defined in number 4, or an amount equal to the excess sum defined in paragraph 1, number 2, of that section.

SEC. 15. In so far as the improvements in question have to do with moor, swamp, waste, or heath land, then upon demand of the seller there shall be added to the purchase price, instead of the expenditures

designated in section 14, number 3, the increase in the value of the land based on its product [*Erhöhung des Ertragswerts*].

SEC. 16. To the purchase price there shall be added, for every year of the period for which the tax is calculated:—

1. two and one-half per cent of the sum total of the purchase price and the additions according to section 14, numbers 1 to 3, and section 15, so far as the sum does not exceed one hundred marks per are or in the case of vineyards three hundred marks per are [1];
2. in the case of unimproved land, two per cent, in the case of improved land one and one-half per cent of the excess above this sum.

If the period for which the tax is calculated shall not exceed five years, the additions in the case of land that has remained unimproved shall be reduced to one half.

The addition shall be reckoned for every complete calendar year after the conclusion of the year in which the tax liabilities accrued, or in which the expenditure was made, or the buildings or remodellings were completed for use.

SEC. 17. If the acquisition of the land shall take place through a legal transaction exempt from the tax (section 7), the increment of value shall be reckoned from the price of the land at the time of the last taxable transaction.

Whether, within the meaning of this provision, legal transactions shall be tax-exempt or taxable shall be determined according to the present act for the period also before the act itself takes effect. Legal transactions of the kind specified in section 5 shall be treated as tax-exempt transfers so far as they were completed before January 1, 1911.

When the last taxable legal transaction shall have taken place more than forty years before an obligation to pay a tax arose, the purchase price shall be held to be the value which the land had forty years before that date, unless the person liable for the tax shall prove that he or his legal predecessor paid at a previous purchase a higher purchase price (whether taxable or tax free).

But if the acquisition from the date of which the increment of value is to be reckoned shall have taken place before January 1, 1885, there shall be substituted for the purchase price of the land the value which it had on that day, unless the person liable for the tax shall prove that he or his legal predecessor paid, at a previous purchase (whether taxable or tax free), a higher purchase price.

For the case specified in paragraph 3 the period for which the tax is calculated shall be the forty-year period; for the case specified in paragraph 4 the period shall be reckoned from January 1, 1885.

[SEC. 18. Contains a special provision regarding certain lands within the military bounds of fortresses.]

[1] The are [*Ar*] is 100 square metres or .024711 acres.

[SEC. 19. Contains provisions on land affected by *Flurbereinigung*, *Umlegung*, and the like. Cf. Section 7, paragraph 7.]

SEC. 20. If the taxable legal transaction is confined to a part of a piece of land, the purchase price of this part shall be calculated according to the proportion of its value to the value of the entire piece of land.

Permanent and uncompensated relinquishment of pieces of land for ways of communication, or for public or charitable ends, shall be so regarded that the total purchase price shall be distributed, not upon the original area, but upon the area remaining after the relinquishment. It is not essential that a transfer of title shall have taken place.

If parts of a landed estate which is a geographic and economic unit shall have been transferred by separate legal acts by the same seller or his heirs within a period of three years, then the person obligated to pay the tax shall be permitted to deduct from the increment of value of one part of the land a loss incurred through the sale of other parts. The increment tax shall be due for each of the transfers; should too large a tax have been collected, the excess shall be returned after the last transfer.

SEC. 21. When part of a property is sold, only those expenditures (section 14, numbers 3 and 4) shall be added which affect this part exclusively or affect it in common with other parts. In the latter case the addition shall be reckoned according to the relation in which the values of the respective parts stood to each other at the time of the sale.

SEC. 22. From the selling price there shall be deducted:

1. costs of the sale and conveyance, including the commission customary in the locality, if these costs have demonstrably fallen upon the previous owner; provided that the selling price of the land, not its value, is the basis for calculating the tax;
2. upon demand of the seller, that amount by which, during the period for which the tax is calculated, yet not for more than fifteen consecutive years, the yearly income of the land shall have been demonstrably less than three per cent on the purchase price including the additions permitted by section 14, numbers 1 to 3. If, instead of the purchase price, its value at a date later than the time of the acquisition of the land shall be the basis of the tax (section 17, paragraphs 3 and 4), the three per cent shall be reckoned not upon this value but upon the purchase price which the person liable for the tax, or his legal predecessor, paid at its purchase (whether taxable or tax free) at the earlier date.

SEC. 23. To the selling price shall be added any compensation paid for a diminution in the value of a piece of land; provided that the claim for such compensation has arisen since January 1, 1911, and it is proved that the amount has not been expended for the repair or removal [*Beseitigung*] of the damage caused.

SEC. 24. If by the terms of the contract of sale the obligation to pay the increment tax is assumed by the purchaser, an amount equal to the tax calculated according to the provisions of this Act shall be added to the selling price, and the tax assessed accordingly.

SEC. 25. In the case of the taxable conveyance of rights in a piece of land held in joint ownership to a person who is a part owner or member of the owning company, the share of the purchaser shall not be considered in measuring the increment of values. At the next taxable operation, the increment of value in the share of the purchaser and that in the share of his previous associates, which have accrued since the last taxable transaction before the separation of ownership, shall be taxed separately.

SEC. 26. In case of exchange of land the tax shall be separately assessed and levied for each item of land exchanged.

SEC. 27. If the land has been acquired as a result of several transfers from the former owner to the last purchaser, then the price paid by that former owner shall be deemed the purchase price, and the sum total of the amounts by which the price of the land has increased between each of the succeeding legal transactions shall be deemed the increment of value. The same shall hold if, before the transfer to the last purchaser, a tax has become due under section 5 of this Act; provided that the sum which was fixed as the selling price for the previous assessment shall be reckoned the purchase price for the transfer to the last purchaser.

Among legal transactions within the meaning of paragraph 1, shall be included transactions of the kind specified in section 5, paragraph 3.

SEC. 28. The tax shall be (the increment being calculated with the additions and subtractions prescribed in §§ 14–16, 21):—

10	per cent	if the increment is	not over	10	per cent						
11	"	"	"	"	between	10	per cent	and	30	per cent	inclusive
12	"	"	"	"	"	30	"	"	50	"	"
13	"	"	"	"	"	50	"	"	70	"	"
14	"	"	"	"	"	70	"	"	90	"	"
15	"	"	"	"	"	90	"	"	110	"	"
16	"	"	"	"	"	110	"	"	130	"	"
17	"	"	"	"	"	130	"	"	150	"	"
18	"	"	"	"	"	150	"	"	170	"	"
19	"	"	"	"	"	170	"	"	190	"	"
20	"	"	"	"	"	190	"	"	200	"	"
21	"	"	"	"	"	200	"	"	210	"	"
22	"	"	"	"	"	210	"	"	220	"	"
23	"	"	"	"	"	220	"	"	230	"	"
24	"	"	"	"	"	230	"	"	240	"	"
25	"	"	"	"	"	240	"	"	250	"	"
26	"	"	"	"	"	250	"	"	260	"	"
27	"	"	"	"	"	260	"	"	270	"	"
28	"	"	"	"	"	270	"	"	280	"	"
29	"	"	"	"	"	280	"	"	290	"	"
30	"	"	"	"	more than 290 per cent.						

The tax shall be reduced by one per cent of its amount for every complete year of the period for which it is calculated. If the land was acquired before January 1, 1900, the reduction for the period up to January 1, 1911, shall be one and one-half per cent annually.

Taxes which in their entirety amount to less than twenty marks shall not be collected.

SEC. 29. Liability for the payment of the increment tax shall rest upon the person who owned the land before the legal transaction from which the tax arose. When the tax falls upon several persons they shall be jointly responsible.

If the tax cannot be collected from the seller, the purchaser shall be responsible for the tax to the amount of two per cent of the selling price. This provision shall not apply in the case of sale at auction. This liability shall cease when the seller has paid or guaranteed a corresponding amount.

SEC. 30. The following shall be exempt from the tax (section 29, paragraph 1): —

1. the sovereign [*der Landesfürst und die Landesfürstin*];
2. the imperial government;
3. the federal states and the communes (communal unions), in the case of land owned by them within their several jurisdictions;
4. associations of all kinds which, without operating for profit, are devoted by their articles to internal colonization, to the settlement of workmen on the land, to the relief from mortgage debt of the poorer classes, or the erection of dwellings for them; provided that they divide among themselves not more than a four per cent return upon their capital invested and provided also that they do not grant special advantages in a different form to their members, managers, or other participants or, in the case of the withdrawal of a member, or dissolution, do not return more than the par value of their shares, and in the case of dissolution devote any surplus to the above stated objects. Whether these conditions of exemption exist, shall be determined by the Bundesrat. The Bundesrat shall be further empowered to grant exemption from the tax to such associations of the aforesaid kind as pay at most a five per cent return upon their capital invested.

SEC. 31. Through legislation by the several states exceptions from the provisions of paragraph 1 of section 30 may be made in favor of the communes (communal unions). Wherever such statutory provisions already exist, they shall remain in force.

SEC. 32. If several successive legal transactions of the kind specified in section 5 precede (section 27) the occurrence of the liability to pay a tax, then all persons who take part as sellers in any one of these transactions shall be responsible for the tax jointly and severally with

the person immediately responsible. In the obligations of the participants among each other each seller shall be liable only to the amount for which he would be liable for tax if the transfer had taken place on the basis of a transaction of sale concluded by him.

If the taxable legal transaction has been undertaken with the collaboration of an agent, or through a middleman, with an agreement that any excess of the price above a stated sum shall go to these persons, then there shall be responsible, for the part of the tax due upon this part of the proceeds, the person who shall receive this part, jointly and severally with the seller.

If the taxable transaction has taken place before this Act goes into effect, the provisions of paragraphs 1 and 2 shall not apply.

SEC. 33. Any person who is liable for the payment of a tax according to the provisions of section 32, paragraph 1, may propose, within one month after the taxable transaction took place, the calculation and collection of the tax upon the increment of value which has accrued up to the time of that legal transaction.

Upon the next levying of the tax, the tax shall be assessed at that rate which would be applicable if this item of increment value were counted.

SEC. 34. If, in the case noted in section 5, the legal transaction involving tax liability is void or revoked, the tax shall upon application be remitted, under such regulations as the Bundesrat shall prescribe. The same shall hold if the legal transaction has been annulled or the property has been returned to its previous owner, because of failure to fulfil the conditions of the contract. Further, in case of a reduction of the price according to sections 459 and 460 of the civil code, the selling price shall be correspondingly reduced and the tax correspondingly refunded.

If the land is transferred back to its previous owner, the tax may be abated, under regulations to be prescribed by the Bundesrat. The tax must be abated if such a transfer takes place within two years after the sale.

If the tax is abated, no sale within the meaning of this Act shall be considered to have taken place.

SEC. 35. The administration and collection of the increment tax shall be in the hands of the federal state in which the land is situated.

The administration of the increment tax shall be through offices selected by the government of the state.

[SEC. 36. Regulates certain administrative relations between imperial and local authorities.]

SEC. 37. Every taxable transaction, and, in so far as an increase of price takes place, every transaction of the kind specified in section 5, shall be announced within a term of one month to the appropriate tax authority (section 35, paragraph 2). The obligation to do this shall rest upon the seller and upon the purchaser. If there are several

sellers or purchasers the obligation shall rest upon each of them. It shall apply similarly to their legal representatives.

The term shall begin at the time in which the person liable first learns of the taxable transaction or of the legal transaction.

An announcement shall not be necessary if, before the lapse of the term, declaration [1] or registration shall have taken place.

If several persons are obligated to make the announcement, then an announcement made by one of them shall fulfil the obligation of the rest.

SEC. 38. Information shall be communicated to the tax authorities, according to detailed regulations to be made by the Bundesrat by the following: —

1. the registries of deeds [*Grundbuchämter*] concerning the recording of transfers of property in land in the registry;
2. the registry courts and authorities [*Registerberichte und—behörden*] concerning entries subject to their jurisdiction;
3. in general the authorities and officials of the empire, states, and communes, including notaries,
   (*a*) concerning all legal transactions attested by them which have to do with the transfer of property in land situated within the country or which have to do with the legal transactions designated in section 5;
   (*b*) concerning all cases of the collection of a tax on the basis of schedule 11 of the imperial stamp act.

The state governments shall be authorized to extend, in agreement with the imperial chancellor, the obligation to supply information to other bodies than those named in paragraphs 1 and 2.

SEC. 39. Upon demand of the tax authority, and within a suitable period of time to be named by that authority, the seller obligated by section 37 to make an announcement shall make an increment tax declaration, setting forth the circumstances to be taken into account in fixing tax liabilities and the amount of the tax.

The tax declaration shall be submitted with the affirmation that the statements are correct to the best knowledge and belief of the declarer.

SEC. 40. If the tax authority is in doubt whether to accept as correct the statements in the tax declaration, it shall inform the person to be taxed of the points objected to, naming a suitable period for counter-declaration. If no counter-declaration ensues within the time established, or if the negotiations do not lead to an agreement, the tax authority shall be authorized, as further to be provided by the state government, to undertake itself the necessary inquiries and to collect the tax accordingly.

The costs of the inquiries shall be paid by the person obligated to pay the tax, if they lead to the final fixing of a tax which exceeds, by more than one third, the tax amount based on his statements.

[1] *Auflassung*: a joint declaration by the parties before a court.

SEC. 41. The authorities, officials, and notaries shall render every aid to the tax authorities for the ascertainment of the tax, and especially shall grant upon demand an examination of proceedings which bear on the assessment of the tax.

SEC. 42. Persons who as sellers or purchasers or as representatives of one of these take part in the taxable legal procedure, shall be required, upon demand of the tax authorities, to supply information concerning the facts which are significant for the assessment of the tax, and to submit whatever documents are in their possession pertaining to the assessment.

The same shall hold of persons who participated in previous taxable transactions.

SEC. 43. When the increment tax shall have been calculated, the tax authorities shall present a statement indicating what person is obligated to pay the tax, the amount of the increment tax, the bases upon which it has been calculated, and the points in which these differ from the tax declaration. The statement shall further indicate the permissible legal means of redress, the length of time in which these may be resorted to, and the authorities to whom they must be presented; and it shall contain a notice demanding the payment of the tax within an interval of time to be determined. The interval shall amount to at least one month.

[SEC. 44–47. Regulate the details of protests and appeals by persons who believe themselves wrongfully assessed for increment taxes.]

SEC. 48. In cases in which the immediate collection of the tax would entail considerable hardship [*erhebliche Härten*], a delay shall be granted, with sureties if needful, under regulations to be made by the Bundesrat; payment by instalments may also be permitted. The permission may be withdrawn in so far as the conditions for granting it have ceased.

SEC. 49. If the person liable to pay the tax is a German, the forced sale of his land at auction, to collect the tax, may not take place without his consent.

SEC. 50. Failure to comply with the obligation to make the increment tax announcement or declaration (sections 37, 39) is subject to a fine not exceeding four times the amount of the tax.

The same penalty shall apply to whoever knowingly makes incorrect statements such as might lead to a lessening of the tax.

The penalty shall not be applied, however, if the person makes good of his own accord his failure to fulfil the obligation mentioned in paragraph 1, or corrects his statements, before notification that the penalty has been imposed or before an investigation has been begun against him.

SEC. 51. If it shall appear that the punctual fulfilment of the obligation shall not have been neglected with intent to defraud the increment tax, or that the incorrect statements have not been made with

this purpose, there shall be substituted for the fine provided in section 50 a fine [*Ordnungsstrafe*] not exceeding 600 marks.

For other violations of the provisions of this law than those stated in section 50 and in paragraph 1, of this section, or for violations of the regulations made for its execution, there shall be imposed a fine not exceeding 150 marks.

SEC. 52. The collection of the increment tax shall take place irrespective of fines and penalties.

[SEC. 53–54. Regulate the collection of fines from partnerships and stock companies, and other penal details.]

In the case of partnerships, associations, and stock companies, the fine shall be levied upon the authorized representatives of the companies as a single amount, in the case of limited liability companies against their managers, in the case of coöperative associations, stock companies, and other associations having a legal personality, against the members of the directorate; but every person, tho jointly liable, shall be liable in full. A similar procedure shall be followed in other cases in which several persons have become liable to punishment jointly or as representatives of a party.

The provision of paragraph 2, sentence 1, shall have due application to the relation of a principal to an agent, who in his representative capacity, in the name of his principal, shall undertake a transaction involving punishment for violation of the law.

SEC. 55. A commutation of a fine which cannot be collected into a prison sentence shall not be allowed. Nor, if the convicted person is a German, shall his land be sold at forced auction without his consent.

SEC. 56. The administrative procedure in increment tax cases — apart from procedure for redress and punishment — shall be free of costs, of fee, and of stamp dues, so far as not otherwise provided in sections 40, paragraph 2, and 47, paragraph 2.

SEC. 57. The right to an increment tax shall lapse after ten years. The term shall begin with the close of the year in which the right to the tax set in; in the case of sureties (section 48), not before the end of the year in which the security expires.

SEC. 58. Of the yield of the increment tax the Empire shall retain fifty per cent. An additional ten per cent, so far as state legislation does not otherwise provide, shall go to the federal states as compensation for the administration and collection of the tax. Forty per cent shall go to the communes or communal unions in whose jurisdiction the land is situated. [Further paragraphs provide for cases of conflict between communes and communal unions.]

SEC. 59. With the permission of the state governments the communes (communal unions) shall be authorized to provide by ordinance, in addition to the share of the tax which according to section 58 goes to them, for the levy of supplements upon their own account.

The supplements shall be reckoned in percentual parts; in no case shall they exceed one hundred per cent of the amount going to the communes. The additions may be varied according to the different kinds of land and according to the length of the period for which the tax is levied.

The imperial tax and the supplements shall together not exceed thirty per cent of the increment.

SEC. 60. If in communes (communal unions) where an increment tax has been enacted before April 1, 1909, and has come into force before January 1, 1911, the share of the increment tax defined in section 58 shall not reach the average yearly amount yielded under the levy [*Satzung*] fixed before April 1, 1909, then up to April 1, 1915, the difference shall be deducted from the share falling to the Empire and added to the share falling to the communes (communal unions); of the remaining amount five-sixths shall fall to the Empire, and one-sixth to the federal state. The same shall hold for communes (communal unions) in which the levy fixed before January 1, 1911, shall have had retroactive effect for a period before April 1, 1909.

Instead of the payment of this difference, the previous levy may upon application (subject to regulations of the Imperial Chancellor) remain in effect for the indicated period of time, in place of the prescriptions of this law; in such way that the communes (communal unions) shall receive an amount equal to the average amount yielded before April 1, 1911, and any excess shall go to the Empire.

The determination of the average yield shall be made by the Bundesrat.

SEC. 61. For those parts of a federal state in which no separate communal organization exists, the provisions of section 58 to 60, intended for communes, shall apply to the federal state.

The provisions of section 60 shall apply to the federal states, the state law taking the place of communal ordinance.

SEC. 62. The obligation to pay a tax under this act shall apply to legal transactions which take place between December 31, 1910, and the time in which this law goes into effect. The provisions of section 29, paragraphs 2 and 3, shall not apply.

The day upon which this law goes into effect shall be the date when obligation to pay a tax and obligation to make announcement begin (section 37).

If in accordance with the provisions annulled in section 72, paragraph 2, on and after January 1, 1911, an increment tax has already been collected, it will be returned to the tax-payer, or, in so far as an increment tax is to be collected on the same legal transaction according to this Act, the amount paid shall be allowed for.

SEC. 63. No tax shall be levied under this Act if the deed or other document concerning the transfer of property shall, before January 1, 1911, have been drawn up in publicly attested form or handed in to a public authority.

SEC. 64. If a taxable transfer concerns land which has been acquired after March 31, 1905, by stock companies and the like associations described in section 3, then, in the case of purchases which shall have taken place before January 1, 1911, there shall be substituted for the purchase price the value of the land, in so far as this is inferior to the stated purchase price by more than 25 per cent and in so far as it shall not appear that the higher amount of the purchase price was intended to evade the tax.

[SEC. 65. Contains transitional provisions for the cases dealt with in section 7, paragraphs 3, 4.]

[SEC. 66. Authorizes the Bundesrat to make certain administrative and supplementary regulations, which are subject to veto by the Reichstag.]

[SEC. 67–71. Make amendments to the imperial stamp tax legislation designed to bring about consistency between the taxes under that legislation and the new increment tax. Among them is a provision (in section 69) by which the rates of stamp taxation are to be revised in case the imperial revenue from the increment tax exceeds, on a three-year average, the sum of 25 million marks. The taxes on entailed properties, levied in substitution for stamp taxes, are also amended.]

SEC. 72. This act shall go into effect on April 1, 1911.

The statutes of the states and the ordinances of communes and communal unions which have to do with the taxation of the increment in the case of sales of land, shall be null and void on and after January 1, 1911, except so far as they are maintained under section 60. Legal transactions begun before January 1, 1911, and the cases of the transfer of property mentioned in section 63, shall still be subject to the increment tax according to these statutes and ordinances, if the procedure for the determination of the tax is concluded only after the present law goes into operation.

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INDEX OF AUTHORS AND SUBJECTS

VOLUMES I–XXV

1886–1911

QUARTERLY JOURNAL OF ECONOMICS
INDEX TO VOLUMES I–XXV
1886–1911

With the issue for August, 1911, the Journal completes a quarter century of publication. An index to the twenty-five volumes is herewith offered. With the completion of the tenth volume, an index was also published; the present index, however, covers the entire series.

Two finding lists are given. The first is an alphabetical author-index, enabling the papers of each contributor to be found at once. The second is by subjects, not by authors, and is arranged under a number of heads and subheads, as shown in detail below. Under the several heads the articles are arranged not by authors, but chronologically. It is believed that convenience is secured by bringing together all the papers on a given topic; the lists constitute in some sort a bibliography on the different subjects. The chronological arrangement gives some indication of the course of development in economic thought. Minor notes of only temporary interest have not been included in either index; but other notes have been included, and, when unsigned, have been supplied as far as possible with the names of their writers.

The editors feel satisfaction and some pride in the present conspectus. The contributions published in these columns, especially as they are brought together in the subject-index, show how considerable a part has been played by the Journal in promoting the progress of economic science. Its aim throughout has been to appeal primarily to well-informed readers; to publish papers that promised to advance the science, however abstruse and however likely to be of interest at the moment for only a small circle; to allow inves-

tigators all the space needed for stating the results of comprehensive inquiries; to welcome contributions from every school of thought; and, tho making no pretense of being a questions-of-the-day periodical, to offer well-considered articles on current topics. The subscription list of the Journal indicates that its policy has the approval of those interested in the serious problems of economics. Tho necessarily limited in numbers, the subscription list is select in quality, and includes distinguished names in every civilized country on the globe.

The same policy will be followed in the future as has been followed in the past; and the Journal bespeaks the continued support both of its readers and of its contributors.

AUTHOR-INDEX

SUBJECT-INDEX

I. ECONOMIC THEORY AND ITS HISTORY

(*a*) History of Theory

(*b*) General Essays

(c) LETTERS, NOTES, BIOGRAPHICAL NOTICES

(*d*) F. A. WALKER AND THE RESIDUAL THEORY OF DISTRIBUTION

(*e*) THE AUSTRIAN SCHOOL, BÖHM-BAWERK

(f) VALUE AND DISTRIBUTION

(*g*) OVERPRODUCTION

(*h*) REVIEWS OF BOOKS

II. SOCIAL PROBLEMS, LABOR AND CAPITAL

(*a*) General Essays; Notes

(*b*) Trade Unions, Strikes

(c) ARBITRATION

(d) COÖPERATION, PROFIT SHARING

(*e*) WORKMEN'S INSURANCE, OLD AGE PENSIONS

III. LAND AND AGRARIAN PROBLEMS

IV. POPULATION AND MIGRATION

V. TRANSPORTATION

(*a*) GENERAL ESSAYS

(*b*) RAILWAYS IN THE UNITED STATES AND THEIR REGULATION

(c) RAILWAYS OUTSIDE THE UNITED STATES

(d) CANALS, SHIPPING

(e) RAILWAY FINANCES

(f) STREET RAILWAYS

VI. FOREIGN TRADE AND TARIFF LEGISLATION

(*a*) GENERAL ESSAYS AND NOTES

(*b*) TARIFF LEGISLATION IN THE UNITED STATES

(c) TARIFF LEGISLATION OUTSIDE THE UNITED STATES

VII. MONEY, BANKING, AND TRADE CYCLES

(a) GENERAL ESSAYS; NOTES

(b) BIMETALLISM

(c) CURRENCY, BANKING, AND PRICES IN THE UNITED STATES

(*d*) CURRENCY, BANKING, AND PRICES IN COUNTRIES OTHER THAN THE UNITED STATES

(e) TRADE CYCLES AND CRISES

VIII. FINANCE AND TAXATION

(a) GENERAL ESSAYS

(*b*) TAX PROBLEMS OF THE UNITED STATES

(*c*) TAX PROBLEMS OF COUNTRIES OTHER THAN THE UNITED STATES

(*d*) PUBLIC DEBTS AND PUBLIC FINANCE

(*e*) THE SINGLE TAX AND INCREMENT TAXES

IX. CAPITAL AND ITS ORGANIZATION: COMBINATIONS, PUBLIC MONOPOLIES, AND PUBLIC CONTROL

(*a*) Combinations and Trusts: Integration

(*b*) Corporate Finances

(*b*) ECONOMIC HISTORY OF THE UNITED STATES

(*c*) ECONOMIC HISTORY IN COUNTRIES OTHER THAN THE UNITED STATES

XI. INDUSTRIES AND RESOURCES

XII. STATISTICAL METHOD AND PRACTICE

(a) GENERAL ESSAYS

(*b*) STATISTICS OF PRICES

(*c*) OTHER STATISTICS

HARVARD UNIVERSITY

COURSES IN HISTORY, GOVERNMENT, AND ECONOMICS FOR 1911–12

[The following are full courses running through the year, unless otherwise stated, Brackets indicate that the course is omitted in 1911–12. Courses omitted in one year are usually given in the year following.]

HISTORY

Primarily for Undergraduates

1. Mediaeval History (introductory course). Professor HASKINS and Dr. GRAY.
2. Modern European History. Professor COOLIDGE and Asst. Professor MERRIMAN.

History of Religions 10. The Elements of Christianity. *Half-course.* Professor PLATNER.

For Undergraduates and Graduates

3. History of Rome to the Reign of Diocletian. Asst. Professor FERGUSON.

[4. History of Greece to the Roman Conquest. Asst. Professor FERGUSON.]

[5. The Church in the Middle Ages from Charlemagne to Dante. Professor EMERTON.]

6. The First Eight Christian Centuries. Professor EMERTON.
7. The Era of the Reformation in Europe. Professor EMERTON.
8. History of France to the Accession of Francis I. Dr. GRAY.
9. Constitutional History of England to the Sixteenth Century. Asst. Professor McILWAIN.

[10*a*. American History to 1760. *Half-course.* Professor CHANNING.]

10*b*. American History, 1760–1801. *Half-course.* Professor CHANNING.

11. History of England during the Tudor and Stuart Periods. Asst. Professor MERRIMAN.

12*a*. English History from the Revolution of 1688 to the Reform of Parliament. *Half-course.* Mr. TEMPERLEY.

[12*b*. English History since the Reform of Parliament. *Half-course.*]

13. Constitutional and Political History of the United States, 1815–1911. Professor HART and Dr. HOLCOMBE.
14. France under Napoleon I. *Half-course.* Asst. Professor JOHNSTON.

[15. History of Russia. Dr. LORD.]

[16. History of Spain and the Spanish-American Colonies. Asst. Professor MERRIMAN.]

17. The History of the West. Professor TURNER.

[18. History of the Far East in the Nineteenth Century. *Half-course.* Professor COOLIDGE.]

19. The Eastern Question. Professor COOLIDGE.

24*a*. The History of the Christian Church in Europe from the Reformation to the end of the Eighteenth Century. *Half-course.* Professor E. C. MOORE.

[24*b*. The History of the Christian Church in Europe and the Expansion of Christendom in the Nineteenth Century. *Half-course.* Professor E. C. MOORE.]

[27. The Historical Literature of France and England since the close of the Eighteenth Century. *Half-course.* Asst. Professor JOHNSTON.]

28. History of Modern Germany. Dr. LORD.
30. The Growth of the British Empire. *Half-course.* Mr. TEMPERLEY.

[32. European and American Warfare in the Nineteenth Century. *Half-course.* Asst. Professor JOHNSTON.]

33. History of Italy from 1789 to 1870. *Half-course.* Asst. Professor JOHNSTON.

[34. The Political Geography of Europe. *Half-course.* Asst. Professor JOHNSTON.]

37. Character and Spread of Hellenistic Culture. *Half-course.* Asst. Professor FERGUSON.
38. Byzantine History. *Half-course.* Professor DIEHL (The Sorbonne).
40. History of France in the Seventeenth and Eighteenth Centuries. *Half-course.* Dr. LORD.

43*b*. Selected Readings in American History. *Half-course.* Professor CHANNING.

History of Religions 1. The Origin and Development of Religion. *Half-course.* Professor G. F. MOORE.

History of Religions 2. History of Religions in Outline. Professor G. F. MOORE.

Primarily for Graduates

21. Introduction to the Sources of Mediaeval History. *Half-course.* Professor HASKINS.
[22. The Elements of Latin Palaeography, with reference to the use of historical sources. *Half-course.* Professor HASKINS.]
[23*a*. Selected Topics in the Historical Development of American Institutions (1774–1783.) *Half-course.* Professor CHANNING.]
23*b*. Selected Topics in the Historical Development of American Institutions (1783–1800). *Half-course.* Professor CHANNING.
[23*c*. The Literature of American History. *Half-course.* Professor CHANNING.]
25. Historical Bibliography and Criticism. *Half-course.* Professor HASKINS.
[26. History of Christian Thought. *First half-year.* Professor EMERTON.]
29. Selected Topics in the History of the Nineteenth Century. Professor COOLIDGE.
[31. Selected Topics from the History of Continental Europe in the Sixteenth and Seventeenth Centuries. *Half-course.* Asst. Professor MERRIMAN.]
[35. Roman Constitutional History. Asst. Professor FERGUSON.]
[36. Greek Constitutional History. Asst. Professor FERGUSON.]
39. Comparative Studies in the Institutions of Western Europe, 1300–1600 (England, France, Spain). *Half-course.* Asst. Professor MERRIMAN.
41. Early Mediaeval Institutions. *Half-course.* Professor HASKINS.
[42. The Political History of the Labor Classes in Western Europe from 1789 to the present day. *Half-course.* Asst. Professor JOHNSTON.]
44. Selected Topics in The History of the West. Professor TURNER.
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